GX-1200 GMDSS DSC RADIO SIMULATOR

DISCLAIMER

THIS IS NOT A 100% REAL SIMULATION OF THE STANDARD HORIZON GX-1200E VHF DSC TRANSCEIVER, AND SHOULD BE USED ONLY AS GENERIC EXAMPLE FOR TRAINING PURPOSES ONLY. MAY NOT MEET/RESPECT ALL INTERNATIONAL REQUIREMENTS, RULES OR REGULATIONS AS ITU R-493 AND OTHER SUBSEQUENT DEVELOPMENT OR AMENDEMENTS.

IN NO EVENT SHALL REGENTS BE LIABLE TO ANY PARTY FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING LOST PROFITS, ARISING OUT OF THE USE OF THIS SOFTWARE AND ITS DOCUMENTATION, EVEN IF REGENTS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

REGENTS SPECIFICALLY DISCLAIMS ANY WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE SOFTWARE AND ACCOMPANYING DOCUMENTATION, IF ANY, PROVIDED HEREUNDER IS PROVIDED "AS IS". REGENTS HAS NO OBLIGATION TO PROVIDE MAINTENANCE, SUPPORT, UPDATES, ENHANCEMENTS, OR MODIFICATIONS.

COPYRIGHT 2016

Pietro Bossi
Via Vincenzo Vela 22
CH-6850 Mendrisio

pietro.bossi@bluewin.ch

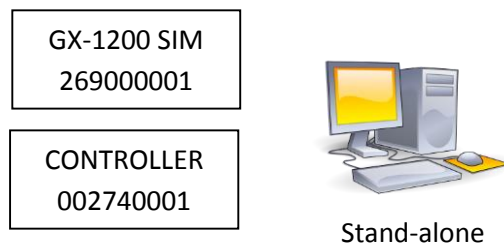**!! USE AT YOUR OWN RISK FOR TRAINING PURPOSES ONLY !!**

REQUIREMENTS

• Personal computer with a Microsoft Windows operating system (tested on XP / W7 / W10).
• Ethernet or WIFI interface (necessary if you want to connect to other PC).
• Compatible Soundcard, speaker, microphone or headset.
• Mouse.
• Video resolution 1280x1024, better if 1920x1080 pixels or more (16/32 bit color depht).
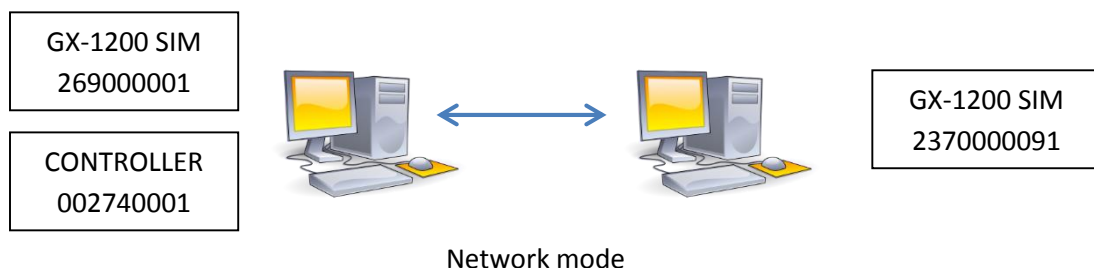

TECHNICAL NOTES

• The simulator use the "UDP Broadcast " protocol to communicate with the "Controller" and other copies of simulator if installed on other PC.
• As result, it's possible to connect as many PC as you want, running the same application (please setup each radio with a different MMSI).
• To simulate real world situation, you may connect two PC directly via an Ethernet crossed-cable, or connect more PCs via a Ethernet HUB or SWITCH (see drawing) .
• Some firewall or antivirus programs may need to be configured to enable communications between PC over the UDP ports 8090 / 8091 (see your software help for configuration).

CONNECTION EXAMPLES

1. Single PC installation:

| GX-1200 SIM |
| 269000001 |

| CONTROLLER |
| 002740001 |

Stand-alone

2. Two PC cross-cable connection:

| GX-1200 SIM |
| 269000001 |

| CONTROLLER |
| 002740001 |

| GX-1200 SIM |
| 2370000091 |

Network mode

3. Multiple PC over Ethernet
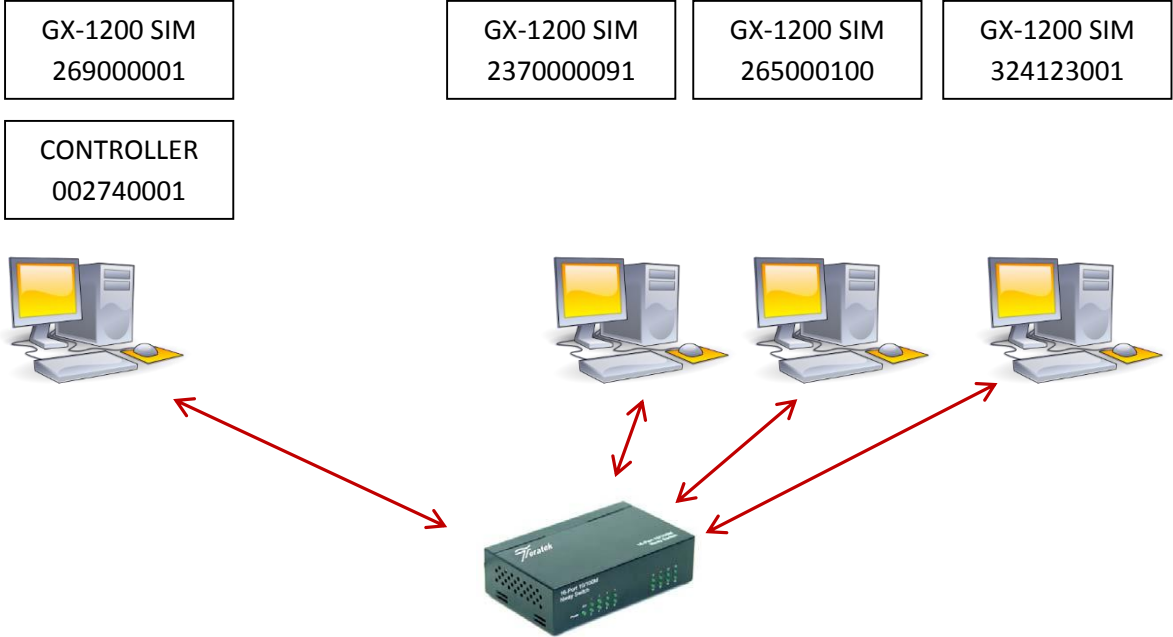
GX-1200 SIM 269000001

CONTROLLER 002740001

GX-1200 SIM 2370000091	GX-1200 SIM 265000100	GX-1200 SIM 324123001

GX-1200 RADIO SETUP

1. RADIO > MMSI : Define your local radio MMSI. Should be a single and different on each radio.
2. RADIO > GROUP : Define a group radio MMSI, to be called with a single MMSI.
3. SIM MODE:
   a. Stand-Alone   : to be set when simulator and controller are used on same PC
   b. Network   : to be set when multiple PC are used (see connections example).

4. OPTIONS > Screen Position: Remember the simulator's window position each time it is started.
5. AUDIO NETWORK : In case the PC has more than one Ethernet interface, it define the one to be used for the audio message. Default setting = 0.0.0.0 mean use any available interface.
6. GPS SETUP > LAT : define the base latitude degrees (00 – 89 N/S) to be used as default.
7. GPS SETUP > LON : define the base longitude degrees (000 – 179 E/W) to be used as default.

8. STATIONS : names and MMSI of know stations present in the simulation.
9. GROUPS   : names and MMSI of know stations present in the simulation.

GX-1200 AUDIO SETUP
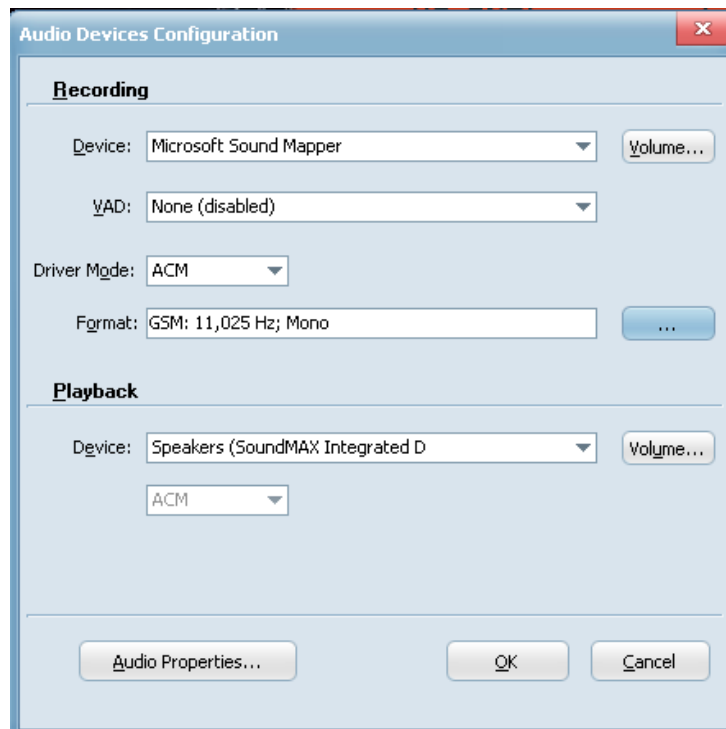
1. Recording:
   a. Device: Select your audio input device, as microphone or audio interface.
   b. VAD: Experimental, no function yet.
   c. Driver Mode: select driver for audio communications. Default: ACM
   d. Format: define quality for audio communication. Default: GSM, 11025Hz, Mono.
   e. Volume: setting Audio devices volume and properties.

2. Playback:
   a. Device: Select your output audio device, as speaker, headphone, etc.
   b. Volume: setting Audio devices volume and properties.

3. Audio Properties: Inspect and modify your PC audio setting and properties.

GX-1200 RADIO CONTROLS

UP / DOWN KEYS

ON-OFF / VOL KNOB

DISTRESS KEY

16 / 9 KEY

CALL / MENU KEY

SOFT KEYS
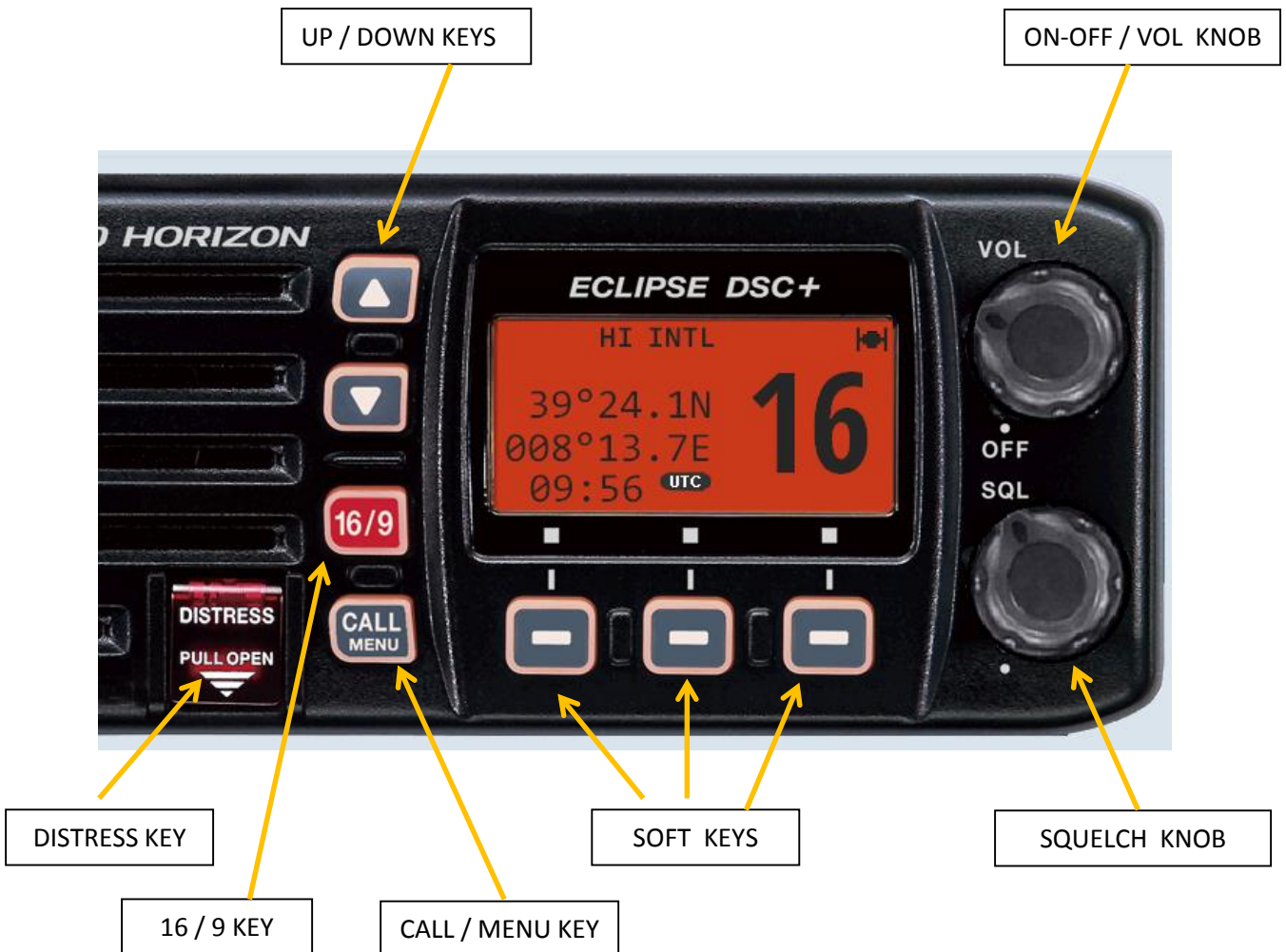
SQUELCH KNOB

- ON-OFF / VOLUME: Turn Clockwise to turn ON the radio and to set audio volume. Press your PC keyboard "ALT" key and then mouse click on the knob to switch radio OFF.

- SQUELCH KNOB: Turn CW or CCW to set the desired squelch threshold level.

- SOFT KEYS: appropriate functions are automatically assigned to these keys during setup menu and DSC operations. Press briefly the buttons recall programmable soft key mode.

- CALL / MENU: Press briefly to access DSC MENU and operating mode. Press and hold to access the SETUP MENU functions. Not all functions are available on this simulator.

- 16 / 9: Press briefly to recall immediately CH-16 from any channel location and to set the HI POWER operating mode.
  Press and hold to recall automatically the CH-09 from any channel location.
  Press again to revert to the previous selected working channel.

- UP / DOWN : These keys are used to select the desired communication channel and to select items in the DSC operations and SETUP menus.

- DISTRESS: Used to send a DSC Distress Call.

GX-1200 RADIO DISPLAY
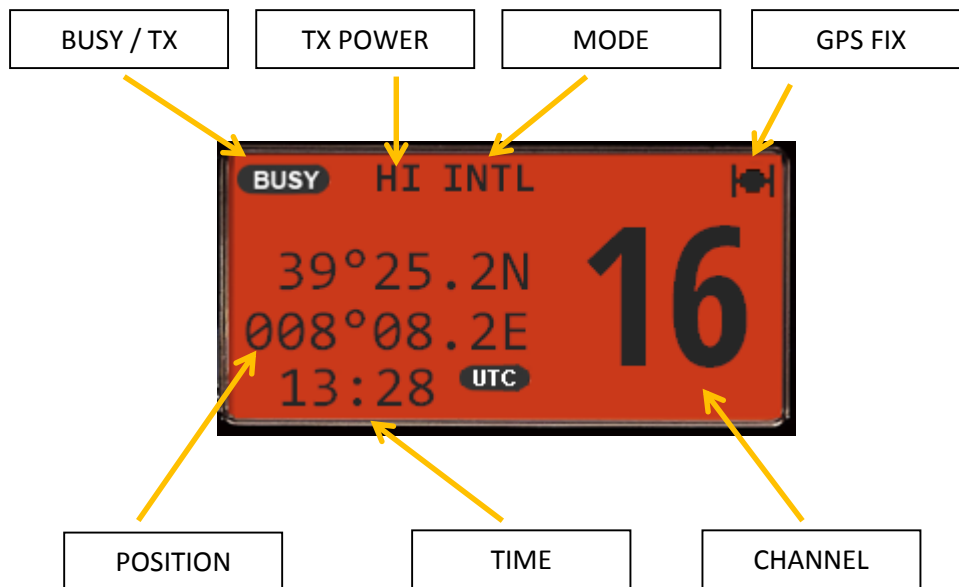
- CHANNEL: Indicate the current selected communication channel.

- GPS FIX : When a GPS is connected to the radio, this icon will indicate that a valid position and fix is acquired and displayed.

- MODE : Used to change between different channels group (USA, International and Canada). Not implemented in simulator yet.

- TX POWER : Indicate if transmitter power is set to HI (25W) or to LOW (1W).

- BUSY / TX : This indicate if the radio is receiving some signal on the channel (BUSY) or is in transmission mode (TX).

- POSITION: indicate the current position if GPS is connected and fix is valid or the manual inserted position, in Latitude and Longitude.

- TIME : Indicate the position validity time. If GPS is connected and fix is valid, show the current time in UTC notation.

GX-1200 MICROPHONE

- 16 / 9 : Press briefly to recall immediately CH-16 from any channel location and to set the
  HI POWER operating mode.
  Press and hold to recall automatically the CH-09 from any channel location.
  Press again to revert to the previous selected working channel.

- UP / DOWN : These keys are used to select the desired communication channel.

- H / L : Press to toggle between High and Low radio transmission power .

- PTT BUTTON: Press and hold to set radio in transmission mode. Release to revert the radio in
  the receive mode.

DSC CALLING PROCEDURES

DSC DISTRESS ALERT / SIMPLE PROCEDURE

A distress call should be transmitted if, in the opinion of the Master, the ship or a person is in distress and requires immediate assistance. A distress call should include the ship's position and time of validity.
They are included automatically when a GPS receiver is connected. If no GPS is connected and situation permit, input manually your position and time of validity.

1. Lift the red DISTRESS switch cover, then press and hold the [DISTRESS] key.
   The DISTRESS menu will appear on the LCD and the radio display will count down (3S > 2S > 1S)
   and then transmit the DSC distress alert. The backlight of the LCD flashes while the radio display is
   counting down.
2. The GX1200 radio watches for an DSC acknowledgment call on CH-70 or a voice call on CH-16 from
   another vessel or coast station.
3. When a DSC distress ACK is received on CH-70, a DSC DISTRESS alarm sounds and CH-16 will be
   automatically selected. The LCD shows the MMSI of the station responding to your distress.
4. If no DSC acknowledgment is received, the Distress alert will be repeated at approximately 4
   minutes intervals until a DSC ACK is received.
5. To cancel the DSC Distress alarm signal from the speaker, press any key.
6. Best practice: after DSC Distress call is transmitted on CH-70, wait 30 second then select CH-16 and
   transmit a voice DISTRESS CALL and DISTRESS MESSAGE.
7. If a DSC ACK is received on CH-70 or a station respond to your distress call on CH-16, pick up the
   microphone, press the PTT button and advise your distress situation.

DSC DISTRESS ALERT WITH NATURE OF DISTRESS

The GX1200 simulator is capable of transmitting a DSC Distress Alert with the following "Nature of Distress" categories:

UNDESIGNATED, FIRE, FLOODING, COLLISION, GROUNDING, CAPSIZING, SINKING, ADRIFT, ABANDONING, PIRACY, MOB

1. Press the **[CALL / MENU]** key. The <DSC MENU> will appear.

2. Press the **[UP]** or **[DOWN]** keys to select <DIST ALT MSG> and then press the **[SELECT**] soft key. To cancel press the **[QUIT]** soft key.

3. The <DISTRESS> menu will appear on the LCD, then press the **[NATURE]** soft key.

4. Press the **[UP]** or **[DOWN**] keys to select the desired nature of distress category, then press the **[SELECT]** soft key.

5. Press and hold the **[DISTRESS]** key until a Distress Alert is transmitted.

6. Perform steps 2 to 7 of the basic operation described on previous section.

```
   -DSC MENU-            !!DISTRESS!!          !!NATURE OF!!
 POS REQUEST    ▲      UNDESIGNATED         ▶ UNDESIGNATED
 POS REPORT             39°24.9N              FIRE
▶ DIST ALT MSG ▼       008°11.7E    ▼         FLOODING      ▼
 SELECT      QUIT      NATURE  POS/TM  QUIT    SELECT      QUIT
```
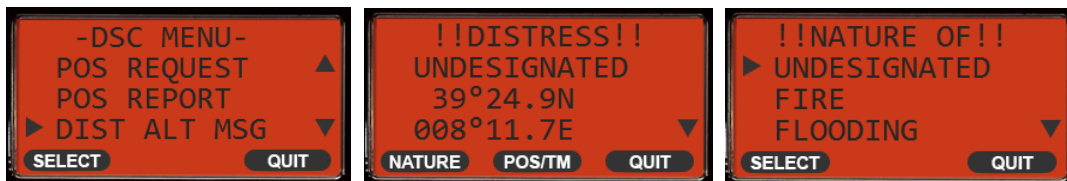
DSC DISTRESS ALERT WITH MANUAL POSITION ENTRY

1. Press the **[CALL / MENU]** key. The <DSC MENU> will appear.

2. Press the **[UP]** or **[DOWN]** keys to select <DIST ALT MSG> and then press the **[SELECT**] soft key. To cancel press the **[QUIT]** soft key.

3. The <DISTRESS> menu will appear on the LCD, then press the **[POS / TM]** soft key.

4. Enter UTC time in 24H format and the Latitude/Longitude of your vessel. Press **[UP]** or **[DOWN]** keys to select the number and press the **[ENT]** soft key to move to the next character. In case of a mistake, you may back space the cursor by pressing the **[BACK]** soft key.

5. When you have completed your selection press **[ENT]** to go back to <DISTRESS MENU>.

6. Press and hold the **[DISTRESS]** key until a Distress Alert is transmitted.

7. Perform steps 2 to 7 of the basic operation described on previous section.

```
   -DSC MENU-          !!DISTRESS!!         -POS INPUT-
   POS REQUEST    ▲    UNDESIGNATED         UTC:   --:--
   POS REPORT          --°--.-N             LAT:   --°--.-N
 ▶ DIST ALT MSG   ▼    ---°--.-W       ▼    LON: ---°--.-W
  SELECT    QUIT      NATURE  POS/TM  QUIT   ENT   BACK   QUIT
```

```
        -POS INPUT-
   UTC:   20:24
   LAT:   41°06.3N
   LON: 005°25.7E
   ENT    BACK    QUIT
```

PAUSING AND CANCELLING A DSC DISTRESS ALERT

After a DSC DISTRESS CALL is transmitted, it is repeated every 4 minutes until the call is cancelled by the user or until the radio is turned OFF and ON again. The GX-1200 has provision to suspend (pause) the re-transmitting of the Distress Call following the procedure:

1. After the Distress Call is transmitted, the radio will display the remaining time to the next transmission with the message < TX IN 3:44 >.

2. To suspend the re-transmitting the Distress Call, press the **[PAUSE]** soft key.

3. To resume counting down to transmit the Distress Call press the **[RESUME]** soft key.

The GX-1200 has the capability to transmit a DSC DISTRESS CANCEL call by pressing the **[CANCEL]** soft key then pressing the **[YES]** soft key.

```
  !!DISTRESS!!            HI INTL             !DIST CANCEL!
  WAIT FOR ACK        DISTRESS
  TX IN 3:44          PAUSING!    16          TRANSMIT?
  PAUSE  CANCEL POS/TM  RESUME  CANCEL         YES         NO
```

RECEIVING A DSC DISTRESS ALERT

1. When a DSC Distress Alert is received, an emergency alarm sounds.

2. The display will show the MMSI or name of the vessel transmitting the distress.

3. Press the **[DOWN]** key to show the nature of distress and GPS location of the vessel in distress.

4. To immediately switch to CH-16 press the **[ACCEPT]** soft key.

5. Press the **[PAUSE]** soft key to suspend the acknowledgment.

6. Press the **[RESUME]** soft key to resume the acknowledgment.

7. If you want the radio to stay on the channel you were on before receiving the distress call, press the **[QUIT]** soft key.

8. If the position of the vessel distress data does not include position, the display will show <NO POSITION>.

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

ALL SHIPS CALL

The ALL SHIPS CALL functions allow contact to be established with other vessels and coast stations without knowing their own MMSI ID. Also, priority for the call   can be designated as "URGENCY" or "SAFETY".

- URGENCY CALL
  - This type of call is used when a vessel may not truly be in distress, but has a potential problem that may lead to a distress situation. This DSC call is usually followed by an Urgency call on CH-16 using radio-telephony (PAN PAN).

- SAFETY CALL
  - This type of call is used to transmit important navigational or meteorological information to other vessels. This DSC call is usually followed by a Safety call on CH-16 using radio-telephony (SECURITE).

1. Press the **[CALL / MENU]** key. The <DSC MENU> will appear.

2. Press the **[UP]** or **[DOWN]** keys to select <ALL SHIPS> and then press the **[SELECT**] soft key. To cancel press the **[QUIT]** soft key.

3. Press the **[UP]** or **[DOWN]** keys to select the type of the call (<SAFETY> or <URGENCY>) and then press the **[SELECT**] soft key.

4. Press the **[UP]** or **[DOWN]** keys to select the operating channel you want to communicate on (default CH-16) and then press the **[SELECT**] soft key.

5. Press the **[YES]** soft key to transmit the selected call type of all ships call.

6. After the all ships call is transmitted, the transceiver will switch to the channel which selected on the step 4 above, with no change of the display. To change the display, press the **[QUIT]** soft key.

7. Listen to the selected channel to make sure it is not busy, then press the PTT button on the microphone and begin with a "Urgency Call" or a "Safety Call" in radio-telephony depending on the priority of the call.

RECEIVING A ALL SHIP CALL

1. When a DSC All Ship Call is received, an emergency alarm sounds.

2. The display will show the MMSI or name of the vessel transmitting the All Ship Call.

3. Press the **[DOWN]** key to show the nature of the call.

4. To immediately switch to the requested channel press the **[ACCEPT]** soft key.

5. Press the **[PAUSE]** soft key to suspend the acknowledgment.

6. Press the **[RESUME]** soft key to resume the acknowledgment.

7. If you want the radio to stay on the channel you were on before receiving all ship call, press the **[QUIT]** soft key.

8. Press the **[QUIT]** soft key to return to normal radio operation.
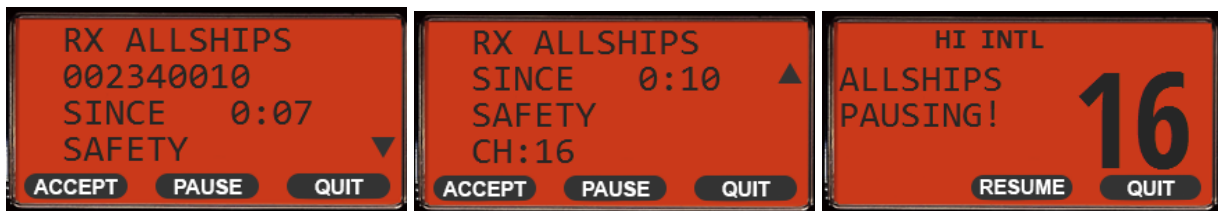
INDIVIDUAL CALL

This feature allow s the user to contact another vessel or coast station with a DSC VHF radio and automatically switch the receiving radio to a desired communication channel and ring like a telephone.

INDIVIDUAL CALL – Manual MMSI entry

1. Press the **[CALL / MENU]** key. The <DSC MENU> will appear.
2. Press the **[UP]** or **[DOWN]** keys to select <INDIVIDUAL> and then press the **[SELECT**] soft key. To cancel press the **[QUIT]** soft key.
3. The transceiver will show the <INDIVIDUAL > menu on the LCD.
4. Press the **[NEW ID]** keys to enter the manual ID function.
5. Press the **[UP]** or **[DOWN]** keys to select <MANUAL> and then press the **[SELECT**] soft key.
6. Press the **[UP]** or **[DOWN]** keys to scroll between number, 0 to 9. To enter the desired number and move one space to the right , press the **[ENT]** soft key.
7. Repeat the procedure until all nine space of the MMSI number which you want to contact are entered.
8. If a mistake was made entering the MMSI number, repeat pressing the **[BACK]** soft key until the wrong number is selected and then press the **[UP]** or **[DOWN]** keys to correct the entry.
9. Press the **[UP]** or **[DOWN]** keys to select the operating channel you want to communicate on and press the **[SELECT]** soft key.
10. Press the **[YES]** soft key to transmit the Individual DSC Call.
11. After the Individual Call is transmitted, if a reply signal is not received, <WAIT FOR ACK> is shown on the display which means that the GX-1200 is waiting for the station you called to send an acknowledgment.
12. To Transmit the call again, press the **[RESEND]** soft key.

```
 -INDIVIDUAL-          INDIVIDUAL
  265000220            265000220
 WAIT FOR ACK          CONNECTED
 SINCE   0:05          SINCE   0:17
 RESEND      QUIT                QUIT
```
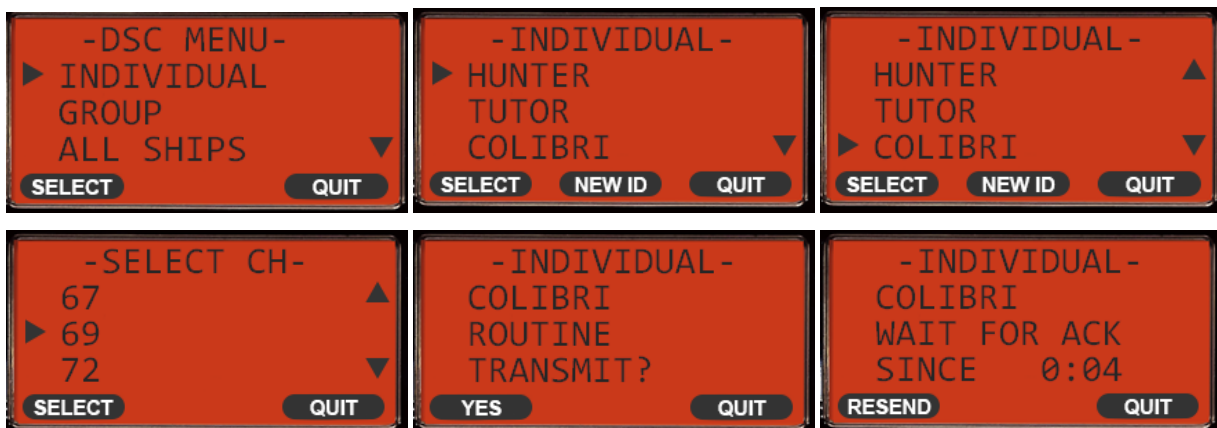
13. When the GX-1200 receives an acknowledgment from the station you called, the radio will
    automatically switch to the operating channel selected in step 9 and produce a ringing sound.

14. Press the microphone PTT button and call the other station you desire to communicate with. Press
    the **[QUIT]** soft key to revert to normal operation mode.

INDIVIDUAL CALL – Using Individual Call Directory

This feature allow s the user to contact another vessel or coast station with a DSC VHF radio and
automatically switch the receiving radio to a desired communication channel and ring like a telephone.
The desired party station MMSI ID can be selected from a stored Call Directory instead of manually insert
the desired MMSI ID.

1. Press the **[CALL / MENU]** key. The <DSC MENU> will appear.

2. Press the **[UP]** or **[DOWN]** keys to select <INDIVIDUAL> and then press the **[SELECT**] soft key.
   To cancel press the **[QUIT]** soft key.

3. The transceiver will show the <INDIVIDUAL > menu on the LCD.

4. Press the **[UP]** or **[DOWN]** keys to select the individual station name you want to contact.

5. Perform steps 9 to 13 described on previous section to call the desired station.

```
  -DSC MENU-            -INDIVIDUAL-           -INDIVIDUAL-
▶ INDIVIDUAL          ▶ HUNTER                HUNTER            ▲
  GROUP                 TUTOR                  TUTOR
  ALL SHIPS      ▼      COLIBRI        ▼     ▶ COLIBRI          ▼
 SELECT      QUIT      SELECT  NEW ID  QUIT   SELECT  NEW ID  QUIT
```

```
  -SELECT CH-           -INDIVIDUAL-           -INDIVIDUAL-
  67           ▲        COLIBRI                COLIBRI
▶ 69                    ROUTINE                WAIT FOR ACK
  72           ▼        TRANSMIT?              SINCE   0:04
 SELECT      QUIT       YES            QUIT    RESEND        QUIT
```

RECEIVING AN INDIVIDUAL CALL

When receiving an Individual Call, an acknowledgment must be sent back to the calling station.

1. When a DSC Individual call is received, a ringing alarm sounds.
2. The display will show the MMSI or name of the vessel transmitting the Individual Call.
3. Press the **[ACCEPT]** soft key to accept the call.
4. Press the **[PAUSE]** soft key to suspend the acknowledgment.
5. Press the **[RESUME]** soft key to resume the acknowledgment.
6. Press the **[ABLE]** soft key to the requested channel.
7. To inform that you cannot respond, press the **[UNABLE]** soft key.
8. Press the **[CHG CH]** soft key to change the channel for communication from the requested one.
9. Press the **[YES]** soft key to send the acknowledgment.
10. Monitor the channel to make sure it is clear, then press the microphone PTT button and talk to the calling vessel.
11. Press the **[QUIT]** soft key to return to the working channel.

GROUP CALL

This feature allow s the user to contact a group of specific vessels (example: members of yacht club) or coast stations with a group MMSI number using the group call function and to automatically switch to a desired channel for voice communications .

This function is very useful for yachts club and vessels traveling together that want to make collectively announcements on a predetermined channel.

Note: usually a GROUP MMSI is not provided by the national or government authority and must be inserted by each group member following a best practice recommended by international rules:

- First digit must be always a zero.
- Next 3 digit must follow the nation's assigned Maritime Identification Digit (MID).
- Following 5 digit may be set as desired but different from any other group in the region.
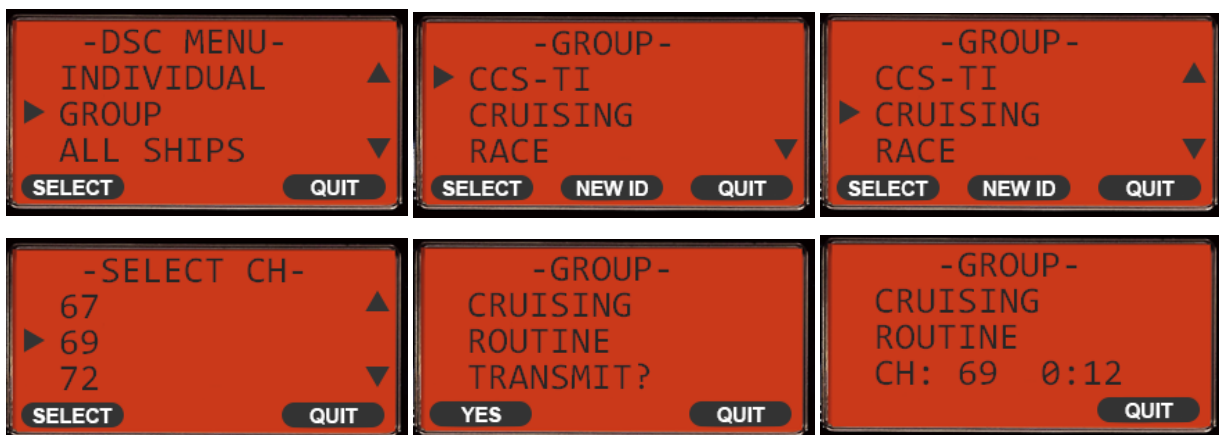
GROUP CALL – Manual GROUP MMSI entry

1. Press the **[CALL / MENU]** key. The <DSC MENU> will appear.

2. Press the **[UP]** or **[DOWN]** keys to select <GROUP> and then press the **[SELECT**] soft key.
    To cancel press the **[QUIT]** soft key.

3. The transceiver will show the <GROUP > menu on the LCD.

4. Press the **[NEW ID]** keys to enter the manual ID function.

5. Press the **[UP]** or **[DOWN]** keys to select <MANUAL> and then press the **[SELECT**] soft key.

6. Press the **[UP]** or **[DOWN]** keys to scroll between number, 0 to 9. To enter the desired number and move one space to the right , press the **[ENT]** soft key.

7. Repeat the procedure until all nine space of the MMSI number which you want to contact are entered.

8. If a mistake was made entering the MMSI number, repeat pressing the **[BACK]** soft key until the wrong number is selected and then press the **[UP]** or **[DOWN]** keys to correct the entry.

9. Press the **[UP]** or **[DOWN]** keys to select the operating channel you want to communicate on and press the **[SELECT]** soft key.

10. Press the **[YES]** soft key to transmit the Group DSC Call.

11. After the Group Call is transmitted, all the radios in the group will switch to the channel which is selected on step 9 above.

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

13. Listen to the channel to make sure it is not busy , then press the microphone PTT button and call the other vessels you desire to communicate with.

```
    -DSC MENU-              -GROUP-                 -GROUP-
   INDIVIDUAL    ▲      ▶ CCS-TI              ▶ MANUAL
 ▶ GROUP                 CRUISING               CCS-TI
   ALL SHIPS     ▼       RACE        ▼          CRUISING      ▼
 SELECT      QUIT      SELECT  NEW ID   QUIT   SELECT          QUIT


     -GROUP-              -SELECT CH-             -GROUP-
                          69          ▲          027400003
  INPUT MMSI            ▶ 72                      ROUTINE
  ID: 027400003          77          ▼           TRANSMIT?
 ENT   BACK   QUIT      SELECT        QUIT      YES            QUIT
```

GROUP CALL – Using Group Call Directory

This feature allow s the user to contact a group of vessels or coast stations. The desired GROUP MMSI ID can be selected from a stored Call Directory instead of manually insert the desired GROUP MMSI ID.

1. Press the **[CALL / MENU]** key. The <DSC MENU> will appear.

2. Press the **[UP]** or **[DOWN]** keys to select <GROUP> and then press the **[SELECT**] soft key.

   To cancel press the **[QUIT]** soft key.

3. The transceiver will show the <GROUP > menu on the LCD.

4. Press the **[UP]** or **[DOWN]** keys to select the GROUP name you want to contact.

5. Perform steps 9 to 13 described on previous section to call the desired station.


```
    -DSC MENU-              -GROUP-                 -GROUP-
   INDIVIDUAL    ▲      ▶ CCS-TI                CCS-TI         ▲
 ▶ GROUP                 CRUISING             ▶ CRUISING
   ALL SHIPS     ▼       RACE        ▼          RACE          ▼
 SELECT      QUIT      SELECT  NEW ID   QUIT   SELECT  NEW ID   QUIT


    -SELECT CH-             -GROUP-                 -GROUP-
   67           ▲          CRUISING               CRUISING
 ▶ 69                      ROUTINE                ROUTINE
   72           ▼          TRANSMIT?              CH: 69  0:12
 SELECT        QUIT      YES          QUIT                     QUIT
```

RECEIVING A GROUP CALL

1. When a DSC Group call is received, a ringing alarm sounds.

2. The display will show the MMSI or name of the vessel transmitting the Group Call.

3. Press the **[DOWN]** soft key to show the nature of the call of the vessel.

4. Press the **[ACCEPT]** soft key to accept the call and switch to the requested channel.

5. Press the **[PAUSE]** soft key to suspend the acknowledgment.

6. Press the **[RESUME]** soft key to resume the acknowledgment.

7. If you want the radio to stay on the channel you were before receiving the Group Call, press the **[QUIT]** soft key.

8. Monitor the channel for the person calling the group for a message.

9. If you want to respond, monitor the channel to make sure it is clear, then press the microphone PTT button and talk to the calling station.

POSITION REQUEST CALL

This feature allow s the user to poll the location of another vessel and show the position of that vessel on the LCD display. This is a great feature for anyone wanting to know the precise position of another vessel, for example a friend's boat you are cruising with.
Note: the other vessel must be equipped with an operating GPS receiver connected to an adequate DSC transceiver and must not have set the transceiver to deny position request !

POSITION REQUEST – Manual MMSI entry

1. Press the **[CALL / MENU]** key. The <DSC MENU> will appear.

2. Press the **[UP]** or **[DOWN]** keys to select <POS REQUEST> and then press the **[SELECT]** soft key. To cancel press the **[QUIT]** soft key.

3. The transceiver will show the <POS REQUEST > menu on the LCD.

4. Press the **[NEW ID]** soft keys to enter the manual ID function.

5. Press the **[UP]** or **[DOWN]** keys to select <MANUAL> and then press the **[SELECT**] soft key.

6. Press the **[UP]** or **[DOWN]** keys to scroll between number, 0 to 9. To enter the desired number and move one space to the right , press the **[ENT]** soft key.

7. Repeat the procedure until all nine space of the MMSI number which you want to contact are entered.

8. If a mistake was made entering the MMSI number, repeat pressing the **[BACK]** soft key until the wrong number is selected and then press the **[UP]** or **[DOWN]** keys to correct the entry.

9. Press the **[UP]** or **[DOWN]** keys to select the category (<ROUTINE> or <SAFETY>) for the position request call, the press the **[SELECT]** soft key.

10. Press the **[YES]** soft key to transmit the POSITION REQUEST DSC Call.

11. When the GX-1200 receives the position from the polled vessel, he will produce a ringing sound alarm sound. Press the Press the **[UP]** or **[DOWN]** keys to show the received position on the LCD display. Press the **[QUIT]** soft key to revert to normal operation mode.

12. If the GX-1200 does not receive a reply, the display will indicate that the radio is waiting for an incoming acknowledgement. Press **[RESEND]** soft key to send the POSITION REQUEST again.

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

POSITION REQUEST – Using Individual Call Directory

1. Press the **[CALL / MENU]** key. The <DSC MENU> will appear.

2. Press the **[UP]** or **[DOWN]** keys to select <POS REQUEST> and then press the **[SELECT**] soft key.
   To cancel press the **[QUIT]** soft key.

3. The transceiver will show the <POS REQUEST > menu on the LCD.

4. Press the **[UP]** or **[DOWN]** keys to select the individual station name you want to poll and press
   the **[SELECT]** soft key.

5. Perform steps 9 to 13 described on previous section to call the desired station.

Note: <SAFETY> is normally used as the category for position request call. However, <ROUTINE> should be
selected when calling a vessel with radio of certain legacy or old model that cannot accept position request
calls categorized as <SAFETY>.

RECEIVING A POSITION REQUEST CALL

1. When a DSC Position Request call is received, a ringing alarm sounds.

2. The display will show the MMSI or name of the requesting vessel.

3. Press the **[REPLY]** soft key to send your position to the requesting vessel.

4. Press the **[QUIT**] soft key to exit from position request display and return to normal radio
   operation.

```
 RX POS REQ          -POS REPLY-
 002340010           002340010
                     REPLIED
 SINCE   0:08        SINCE   0:08
REPLY         QUIT                QUIT
```

POSITION REPORT CALL

This feature is similar to the position request feature, however instead of requesting a position of another vessel this function allows you to send your position to another vessel. In order to send your position it's necessary to have a GPS receiver connected or to have manually input your position.

POSITION REPORT – Manual MMSI entry

1. Press the **[CALL / MENU]** key. The <DSC MENU> will appear.
2. Press the **[UP]** or **[DOWN]** keys to select <POS REPORT> and then press the **[SELECT**] soft key. To cancel press the **[QUIT]** soft key.
3. The transceiver will show the <POS REPORT > menu on the LCD.
4. Press the **[NEW ID]** soft keys to enter the manual ID function.
5. Press the **[UP]** or **[DOWN]** keys to select <MANUAL> and then press the **[SELECT]** soft key.
6. Press the **[UP]** or **[DOWN]** keys to scroll between number, 0 to 9. To enter the desired number and move one space to the right , press the **[ENT]** soft key.
7. Repeat the procedure until all nine space of the MMSI number which you want to contact are entered.
8. If a mistake was made entering the MMSI number, repeat pressing the **[BACK]** soft key until the wrong number is selected and then press the **[UP]** or **[DOWN]** keys to correct the entry.
9. Press the **[UP]** or **[DOWN]** keys to select the category (<ROUTINE> or <SAFETY>) for the position report call, the press the **[SELECT]** soft key.
10. Press the **[YES]** soft key to transmit the POSITION REPORT DSC Call.
11. Press the **[QUIT]** soft key to return to normal radio operation.

POSITION REPORT – Using Individual Call Directory

1. Press the **[CALL / MENU]** key. The <DSC MENU> will appear.

2. Press the **[UP]** or **[DOWN]** keys to select <POS REPORT> and then press the **[SELECT**] soft key.
   To cancel press the **[QUIT]** soft key.

3. The transceiver will show the <POS REPORT > menu on the LCD.

4. Press the **[UP]** or **[DOWN]** keys to select the individual station name you want to send your
   position and press the **[SELECT]** soft key.

5. Perform steps 9 to 11 described on previous section.

Note: <SAFETY> is normally used as the category for position report call. However, <ROUTINE> should be selected when calling a vessel with radio of certain legacy or old model that cannot accept position report calls categorized as <SAFETY>.

RECEIVING A POSITION REPORT CALL

1. When a DSC Position Request call is received, a ringing alarm sounds.

2. The display will show the MMSI or name of the reporting vessel.

3. The display will display how long since the call was received and the GPS position of the vessel.

4. Press the **[UP] or [DOWN]** soft keys to change the display to view the received data.

5. Press the **[QUIT]** soft key to exit from position report display and return to normal radio
   operation.

POLLING CALL

The GX-1200 has the capability of DSC POLLING.

POLLING – Manual MMSI entry

1. Press the **[CALL / MENU]** key. The <DSC MENU> will appear.

2. Press the **[UP]** or **[DOWN]** keys to select <POLLING> and then press the **[SELECT**] soft key.
   To cancel press the **[QUIT]** soft key.

3. The transceiver will show the <POLLING> menu on the LCD.

4. Press the **[UP]** or **[DOWN]** keys to select <MANUAL> and then press the **[SELECT]** soft key.

5. Press the **[UP]** or **[DOWN]** keys to scroll between number, 0 to 9. To enter the desired number
   and move one space to the right , press the **[ENT]** soft key.

6. Repeat the procedure until all nine space of the MMSI number which you want to contact are
   entered.

7. If a mistake was made entering the MMSI number, repeat pressing the **[BACK]** soft key until the
   wrong number is selected and then press the **[UP]** or **[DOWN]** keys to correct the entry.

8. Press the **[YES]** soft key to transmit the POLLING DSC Call.

9. After a polling call is transmitted, if the reply signal is not received, <WAIT FOR ACK> is shown on
   the display which means that the GX-1200 is waiting for the vessel you called to send an
   acknowledgment.

10. To transmit the call again, press the **[RESEND]** soft key.

11. When the GX-1200 receives an acknowledgment from the polled vessel, he will show
    <AKNOWLEDGED>.

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

POLLING – Using Individual Call Directory

1. Press the **[CALL / MENU]** key. The <DSC MENU> will appear.

2. Press the **[UP]** or **[DOWN]** keys to select <POLLING> and then press the **[SELECT]** soft key. To cancel press the **[QUIT]** soft key.

3. The transceiver will show the <POLLING > menu on the LCD.

4. Press the **[UP]** or **[DOWN]** keys to select the individual station name you want to send your polling request and press the **[SELECT]** soft key.

5. Perform steps 9 to 12 described on previous section.

RECEIVING A POLLING CALL

1. When a DSC Polling Call is received, a ringing alarm sounds.

2. The display will show the MMSI or name of the polling vessel.

3. The display will display how long since the call was received.

4. Press the **[REPLY]** soft key to send your acknowledgment to the polling vessel.

5. Press the **[QUIT**] soft key to exit from polling display and return to normal radio operation.

```
     RX POLLING          -POLLING-
      002340010        002340010
                       REPLIED
     SINCE   0:08      SINCE    0:04
    REPLY        QUIT             QUIT
```
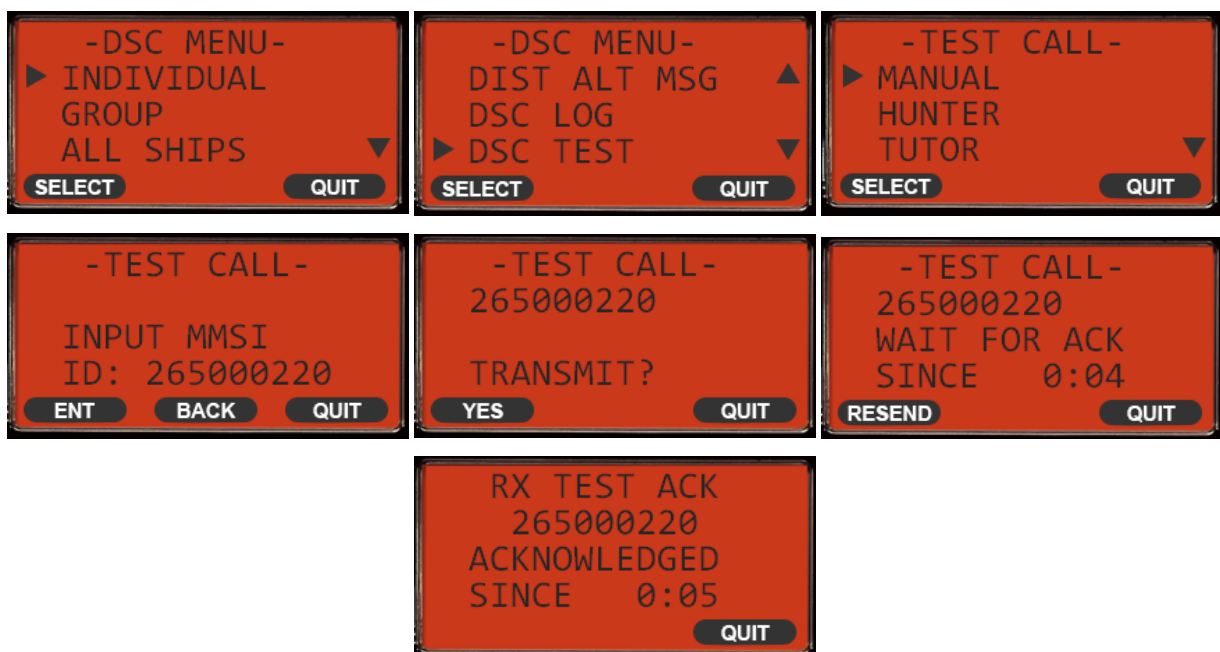
DSC TEST CALL

Use the following procedure to ensure the DSC feature are functioning with another DSC radio.

DSC TEST – Manual MMSI entry

1. Press the **[CALL / MENU]** key. The <DSC MENU> will appear.

2. Press the **[UP]** or **[DOWN]** keys to select <DSC TEST> and then press the **[SELECT]** soft key.
    To cancel press the **[QUIT]** soft key.

3. The transceiver will show the <DSC TEST> menu on the LCD.

4. Press the **[UP]** or **[DOWN]** keys to select <MANUAL> and then press the **[SELECT]** soft key.

5. Press the **[UP]** or **[DOWN]** keys to scroll between number, 0 to 9. To enter the desired number and move one space to the right , press the **[ENT]** soft key.

6. Repeat the procedure until all nine space of the MMSI number which you want to contact are entered.

7. If a mistake was made entering the MMSI number, repeat pressing the **[BACK]** soft key until the wrong number is selected and then press the **[UP]** or **[DOWN]** keys to correct the entry.

8. Press the **[YES]** soft key to transmit the DSC TEST Call.

9. After a DSC call is transmitted, the GX-1200 waits for a reply from the radio which was called , the display will show <WAIT FOR ACK> .

10. To transmit the call again, press the **[RESEND]** soft key.

11. When the GX-1200 receives an acknowledgment from the called vessel, he will show <AKNOWLEDGED>.

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

1. Press the **[CALL / MENU]** key. The <DSC MENU> will appear.

2. Press the **[UP]** or **[DOWN]** keys to select <POLLING> and then press the **[SELECT]** soft key. To cancel press the **[QUIT]** soft key.

3. The transceiver will show the <POLLING > menu on the LCD.

4. Press the **[UP]** or **[DOWN]** keys to select the individual station name you want to send your polling request and press the **[SELECT]** soft key.

5. Perform steps 8 to 12 described on previous section.

MANUAL LOCATION INPUTTING (LAT / LON)

You may send the Latitude/Longitude of your vessel manually when a GPS receiver is not connected or is not functioning. After a position is entered, transmitting a DSC Distress or position report will contain the manually entered position.

1. Press and hold the **[CALL / MENU]** key until the <SETUP MENU> appear.

2. Press the **[UP]** or **[DOWN]** keys to select <POS INPUT> and then press the **[SELECT]** soft key.

3. The <POS INPUT> menu will be shown.

4. Enter UTC time in 24 hour format.

5. Use the **[ENT]** and the **[BACK]** soft keys to navigate to each column of the time, then use the **[UP]** or **[DOWN]** keys to select the desired number in each column. Repeat for each column to complete the time.

6. Enter the Latitude and Longitude of your vessel location using the same procedure above.

7. When finished, press **[QUIT]** soft key to return to normal radio operation.

```
    -SETUP MENU-              -SETUP MENU-              -POS INPUT-
 ▶ GENERAL SETUP          CH FUNC SETUP  ▲        UTC:   15:3-
   CH FUNC SETUP          DSC SETUP                LAT:   --°--.-N
   DSC SETUP       ▼   ▶ POS INPUT       ▼        LON:  ---°--.-W
 [SELECT]      [QUIT]    [SELECT]    [QUIT]      [ENT]  [BACK]  [QUIT]
```

CHECKING YOUR MMSI

1. Press and hold the **[CALL / MENU]** key until the <SETUP MENU> appear.

2. Press the **[UP]** or **[DOWN]** keys to select <MMSI SETUP> and then press the **[SELECT]** soft key.

3. The <USER MMSI> menu will be shown.

4. Your stored MMSI will be shown as confirmation.

5. When a valid MMSI is entered, it's not possible to replace with a new one.

6. Press **[OK]** soft key to go back to <SETUP MENU> and **[QUIT]** to return to normal radio operation.

```
    -SETUP MENU-              -SETUP MENU-              -USER MMSI-
 ▶ GENERAL SETUP          DSC SETUP      ▲           STORED ID
   CH FUNC SETUP          POS INPUT                  234000200
   DSC SETUP       ▼   ▶ MMSI SETUP
 [SELECT]      [QUIT]    [SELECT]    [QUIT]              [OK]
```

VOICE CALLING PROCEDURES

DISTRESS CALL

1. Transmit a DSC Distress Alert, containing if possible the nature of distress and your position.
2. Wait briefly (30 sec) for a Distress Acknowledgment, usually from a CRS or MRCC.
3. Transmit a Distress Call, on CH-16 using voice radiotelephony.
4. Transmit a Distress Message, on CH-16 using voice radiotelephony.

Voice Distress Call:

- Mayday (3x)
- This is
- Vessel Name (3x)
- Vessel Call Sign
- MMSI

Voice Distress Message:

- Mayday
- Vessel Name
- Vessel Call Sign
- MMSI
- Last know position (LAT/LON) or relative to any geographical reference.
- Time of validity of the position.
- Nature of distress.
- Requested help.
- Other useful information that may help rescue operation.
- OVER

Example:

> MAYDAY MAYDAY MAYDAY
> THIS IS
> YACHT HOLIDAY HOLIDAY HOLIDAY
> HBY5824 269235000
>
> MAYDAY
> YACHT HOLIDAY
> HBY5824 269235000
> POSITION 43 DEGREES 15 MINUTES NORTH
> 006 DEGREES 28 MINUTES EAST
> AT 0845 UTC
> THE SHIP IS SINKING
> IMMEDIATE ASSISTANCE IS REQUIRED
> THE SHIP IS A 46 FEET SAILING YACHT SLOOP DARK BLUE HULL
> 6 PERSONS ON BOARD
> LAST COURSE 170 DEGREES SPEED FIVE KNOTS
> OVER

DISTRESS ACKNOWLEDGEMENT CALL

The international Radio Regulations RR state that usually a DSC Distress Acknowledgment shall be transmitted only by a Coast station or by a MRCC.

If a vessel receive a DSC Distress Call and / or a voice Distress Call shall:

- Listen on the distress channel for the Distress Traffic and take note of the content.
- If after 5 minutes, no Distress Acknowledgment has been transmitted by a SRC or MRCC, proceed with a Distress Acknowledgement using voice radiotelephony.
- Try to contact a CRS or MRCC with any method to inform them about situation.

Voice Distress Acknowledgment:

- MAYDAY
- NAME OF THE DISTRESS VESSEL   or;
- MMSI   or;
- ANY OTHER DISTRESSED VESSEL IDENTIFICATION
- THIS IS VESSEL NAME
- CALL SIGN
- MMSI
- RECEIVED MAYDAY

Example:

>   MAYDAY
>   YACHT HOLIDAY
>   THIS IS YACHT LUCKY
>   HBY4247
>   269285000
>   RECEIVED MAYDAY

DISTRESS CALL RELAY

Distress Call relay to a land station

This is only broadcasted when a station learns that:

- Another vessel has transmitted a DSC Distress Call that is not confirmed by any station after 5 minutes; or
- Another vessel is in Distress and is unable to transmit the Distress Alert itself, (example: direct visual observation) and in opinion of the master further help is required.

Usually the VHF DSC radio installed on pleasure or small vessels, can't transmit a DSC Distress Alert Relay because the <Class D> DSC controller are not equipped with this function. The pleasure craft is then required to relay the distress call directly to a land station (CRS or MRCC) on an appropriate monitored working channel using Voice Radiotelephony.

- MAYDAY RELAY   (3x)
- NAME OF CALLED STATION   (3x)
- THIS IS
- VESSEL NAME   (3x)
- CALL SIGN
- OVER

Example:

> MAYDAY RELAY MAYDAY RELAY MAYDAY RELAY
> BREMEN RESCUE BREMEN RESCUE BREMEN RESCUE
> THIS IS
> YACHT DOLPHIN DOLPHIN DOLPHIN HBY 3585
> OVER
>
> _When Bremen Rescue answer the call and request to continue with the <Go Ahead>:_
>
> BREMEN RESCUE THIS IS SAILING YACHT DOLPHIN HBY 3585
> POSITION 28 DEGREES 12 MINUTES NORTH 030 DEGREES 15 MINUTES EAST AT
> 0645 UTC
> WE OBSERVED AN UNIDENTIFIED TRAWLER SINKING ABOUT 3 NAUTICAL MILES
> SOUTHEAST OF OUR REPORTED POSITION WE ARE HEADING TO THE TRAWLER
> WE REQUEST IMMEDIATE ADDITIONAL ASSISTANCE FROM ASHORE AND OTHER
> SHIPS IN VICINITY
> OVER

Distress Call relay to All Stations

In case no land station (CRS or MRCC) can be directly contacted and alarmed, the master may transmit a Distress Call Relay to All Stations using Voice Radiotelephony on CH-16.

- MAYDAY RELAY   (3x)
- ALL STATIONS   (3x)
- THIS IS
- VESSEL NAME   (3x)
- CALL SIGN
- WE RECEIVED FOLLOWING DISTRESS MESSAGE
- AT ….. UTC   ON CHANNEL …..
- OVER

Example:

> MAYDAY RELAY MAYDAY RELAY MAYDAY RELAY
> ALL STATIONS ALL STATIONS ALL STATIONS
> THIS IS
> YACHT DOLPHIN DOLPHIN DOLPHIN HBY3585
> WE RECEIVED THE FOLLOWING DISTRESS MESSAGE AT 0700 UTC ON CHANNEL 16
> MAYDAY YACHT HOLIDAY HBY5824 269235000
> POSITION 43 DEGREES 15 MINUTES NORTH 006 DEGREES 28 MINUTES EAST
> AT 0645 UTC
> THE SHIP IS SINKING
> IMMEDIATE ASSISTANCE IS REQUIRED
> THE SHIP IS A 46 FEET SAILING YACHT SLOOP DARK BLUE HULL
> 6 PERSONS ON BOARD LAST COURSE 170 SPEED FIVE KNOTS
> OVER

CANCELLING A FALSE DISTRESS CALL

If a vessel transmit a false DSC Distress Call, this should be immediately cancelled !

- If the <CANCEL> function is available on the radio, this should be used as soon as possible.
- Power cycle the radio OFF and ON to stop the automatic alarm re-trasmission.
- Transmit the Distress Cancel message on the CH-16.

Voice Distress Cancel Message:

- ALL STATIONS (3x)
- THIS IS
- VESSEL NAME (3x)
- CALL SIGN
- MMSI
- PLEASE CANCEL MY DISTRESS ALERT OF ……. UTC
- OVER

Example:

> ALL STATIONS ALL STATIONS ALL STATIONS
> THIS IS
> SAILING YACHT TROUBLE TROUBLE TROUBLE
> HBY2854 269432000
> PLEASE CANCEL MY DISTRESS ALERT OF 0700 UTC
> OVER

URGENCY CALL

- There is no DSC Acknowledgment for a DSC Urgency Call transmitted to All SHIPS.
- Transmit the Urgency Call and Message using Voice Radiotelephony on CH-16.
- If CH-16 is being used for a Distress Traffic, the Urgency Call and Message must be delayed until the Distress Traffic is over or must be addressed directly to a CRS or MRCC using a working channel of the land station.

Voice Urgency Message:

- PAN PAN   (3x)
- ALL STATIONS   (3x)
- THIS IS
- VESSEL NAME   (3x)
- CALL SIGN
- MMSI
- LAST KNOW POSITION (LAT/LON) OR ANY GEOGRAPHICAL REFERENCE.
- TIME OF VALIDITY OF THE POSITION.
- URGENCY MESSAGE.
- OVER

Example:

```
PAN PAN   PAN PAN   PAN PAN
ALL STATIONS ALL STATIONS ALL STATIONS
THIS IS
SAILING YACHT DOLPHIN  DOLPHIN  DOLPHIN
HBY2854 269432000
POSITION 43 DEGREES 15 MINUTES NORTH 006 DEGREES 28 MINUTES EAST
AT 0845 UTC
OUR RUDDER IS BROKEN AND WE ARE DRIFTING SLOWLY IN TO DANGER
WE NEED TOWING ASSISTANCE
OVER
```

CANCELLING AN URGENCY CALL

When an urgency announcement or call and message was transmitted to more than one station and action is no longer required, an urgency cancellation should be sent by the station responsible for its transmission, using voice radiotelephony.

Voice Urgency Cancel Message:

- PAN PAN   (3x)
- ALL STATIONS   (3x)
- THIS IS
- VESSEL NAME   (3x)
- CALL SIGN
- MMSI
- URGENCY CANCELLATION MESSAGE.
- OVER

Example:

> PAN PAN   PAN PAN   PAN PAN
> ALL STATIONS ALL STATIONS ALL STATIONS
> THIS IS
> SAILING YACHT DOLPHIN DOLPHIN DOLPHIN
> HBY2854 269432000
> PLEASE CANCEL MY URGENCY MESSAGE OF 0725 UTC
> OVER

SAFETY CALL

- There is no DSC Acknowledgment for a DSC Safety Call transmitted to All SHIPS.
- Transmit the Safety Call and Message using Voice Radiotelephony on CH-16.
- If CH-16 is being used for a Distress or Urgency Traffic, the Safety Call and Message must be delayed until the Distress Traffic is over or must be addressed directly to a CRS or MRCC using a working channel of the land station.

Voice Safety Message:

- SECURITE   (3x)
- ALL STATIONS   (3x)
- THIS IS
- VESSEL NAME   (3x)
- CALL SIGN
- MMSI
- LAST KNOW POSITION (LAT/LON) OR ANY GEOGRAPHICAL REFERENCE.
- TIME OF VALIDITY OF THE POSITION.
- SAFETY MESSAGE.
- OVER

Example:

> SECURITE SECURITE SECURITE
> ALL STATIONS ALL STATIONS ALL STATIONS
> THIS IS
> SAILING YACHT DOLPHIN DOLPHIN DOLPHIN
> HBY2854 269432000
> 3 NAUTICAL MILES SOUTH OF CAPE FANTASY
> WE OBSERVED A DRIFTING YELLOW CONTAINER DANGEROUS FOR NAVIGATION
> SHIPS IN VICINITY PLEASE NAVIGATE CAREFULLY
> OVER