

### 11.7.4 Saving the Reported Position as a Waypoint

The transceiver can save a position report call in the radio's memory as a waypoint.

1. After the position report call has been received, press the **[SAVE]** soft key.
2. If you want to change the name of the waypoint, rotate the **DIAL/ENT** knob to select "**NAME**", then press the **[SELECT]** soft key.
3. Enter the name of the waypoint you want to reference in the directory. For details, refer to "**11.4.1 Setting up the Individual / Position Call Directory**".
4. Press the **[ENTER]** soft key to save the waypoint into memory.
5. Press the **[OK]** soft key to return to the position report display.



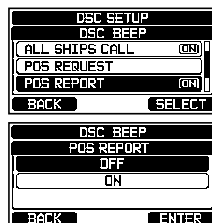
#### Navigating to a Saved Waypoint

Refer to section "**12.1.1 Starting and Stopping Navigation**" for details.

### 11.7.5 Setting up a Position Report Ringer

The transceiver position report ringer may be turned OFF.

1. Press & hold **[MENU/SET]** ➡ "**DSC SETUP**" ➡ "**DSC BEEP**"
2. Rotate the **DIAL/ENT** knob to select "**POS REPORT**", then press the **[SELECT]** soft key.
3. Rotate the **DIAL/ENT** knob to select "**OFF**".
4. Press the **[ENTER]** soft key to store the selected setting.
5. Press the **[CLEAR]** key to return to radio operation.




To enable the ringer tone, repeat the above procedure, rotate the **DIAL/ENT** knob to select "**ON**" in the step 3 above.

## 11.8 AUTO POSITION POLLING


The transceiver has the capability to automatically track six vessels programmed into the individual directory, or to automatically send your position information to the programmed stations.

### 11.8.1 Setting up the Polling Operation

1. Press & hold [  ] ➡ “DSC SETUP” ➡ “AUTO POSITION POLLING”
2. Rotate the **DIAL/ENT** knob to select the desired operation (AUTO POS REQUEST and AUTO POS REPORT), and press the [ENTER] soft key.
3. Press the [CLEAR] key to return to radio operation.



### 11.8.2 Setting up the Polling Time Interval


1. Press & hold [  ] ➡ “DSC SETUP” ➡ “AUTO POS INTERVAL”
2. Rotate the **DIAL/ENT** knob to select the desired interval time (30 second, 1, 2, 3, and 5 minutes) and press the [ENTER] soft key.
3. Press the [CLEAR] key to return to radio operation.

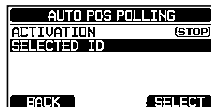


### 11.8.3 Selecting Vessels to be Automatically Polled

#### NOTE

The radio uses the individual directory to select vessels to be automatically polled. Refer to section “11.4.1 Setting up the Individual / Position Call Directory” and enter the MMSI of vessels you may want to poll before proceeding.

1. [  ] ➡ “DSC CALL” ➡ “AUTO POS POLLING”
2. Rotate the **DIAL/ENT** knob to select “SELECTED ID”, then press the [SELECT] soft key.
3. The radio will show a highlighted blank row when you select the vessel for the first time. Press the [SELECT] soft key.



- The radio will show the vessels programmed in the individual directory. Rotate the **DIAL/ENT** knob to select the desired vessel, then press the **[ENTER]** soft key.
- For more entries, rotate the **DIAL/ENT** knob to select a blank row, press the **[SELECT]** soft key, then perform step 4.
- When finished, press the **[CLEAR]** key to exit to the radio mode.



#### 11.8.4 Enabling/Disabling Auto POS Polling

- [MENU/SET]** ➡ “DSC CALL” ➡ “AUTO POS POLLING”
- Rotate the **DIAL/ENT** knob to select “**ACTIVATION**”, then press the **[SELECT]** soft key.
- Rotate the **DIAL/ENT** knob to select “**START**” to enable transmissions or “**STOP**” to disable, then press the **[ENTER]** soft key.
- Press the **[CLEAR]** key to return to radio operation.
- Auto POS Polling starts and the “**A**” icon will appear on the display.



### 11.9 DSC TEST

This function is used to contact another DSC equipped vessel to ensure the DSC functions of the radio are operating.

#### NOTE

To use the DCS Test feature, a radio that is to receive the test call also needs to have the DSC Test feature.


To perform the DSC test you will need to enter the MMSI of another vessel into the individual directory or manually enter the MMSI using the procedure below.

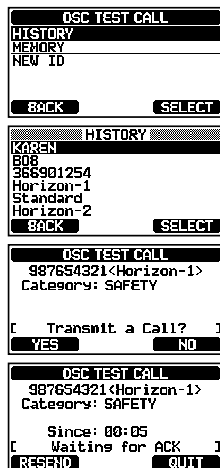
#### 11.9.1 Programming MMSI into Individual Directory

Refer to section “11.4.1 Setting up the Individual / Position Call Directory”.


## 11.9.2 Transmitting a DSC Test to Another Vessel

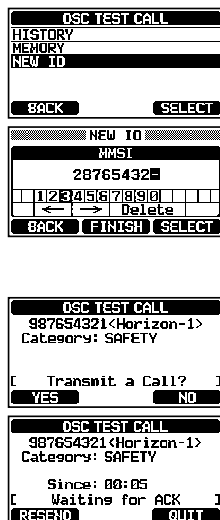
### *DSC Test call using the Individual/Position Directory*

1. [  ] ⇒ “DSC CALL” ⇒ “DSC TEST 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 the ship name, then press the [SELECT] soft key.
4. Press the [YES] soft key to transmit the DSC test call to the other vessel.
5. Press the [QUIT] soft key to return to radio operation.



### *DSC Test Call by Manually Entering an MMSI*

1. [  ] ⇒ “DSC CALL” ⇒ “DSC TEST CALL” ⇒ “**MANUAL**”
2. Rotate the **DIAL/ENT** knob to select “**NEW ID**”, then press the [SELECT] soft key.
3. Rotate the **DIAL/ENT** knob to select the first digit in the MMSI, then press the [SELECT] soft key.
4. Repeat step 3 until all the numbers of the MMSI are shown on the display.
5. Press the [FINISH] soft key to show the test call page.
6. Press the [YES] soft key to transmit the DSC test call to the other vessel.
7. Press the [QUIT] soft key to return to radio operation.



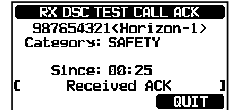
## NOTE

When the radio receives a test call reply from the vessel that was called, the radio will ring and show **"RX TEST CALL"** on the display, this confirms the called radio has received the test call.

### 11.9.3 Receiving a DSC Test Call

When another vessel transmits a DSC Test call to the **GX2410** following will happen:

1. When a DSC Test call is received, the radio will automatically respond to the calling vessel.
2. To exit from the DSC Test call display, press the **[QUIT]** soft key.



### 11.10 DSC LOG OPERATION

The **GX2410** logs transmitted calls, received DSC distress calls, and other calls (individual, group, all ships, etc.). The DSC log feature is similar to an answer machine where calls are recorded for review and an "☒" icon will appear on the radio's display. The **GX2410** can store up to 100 transmitted calls, up to the latest 50 distress calls, and up to the latest 100 other calls (individual, group, all ships, position report, position request acknowledge and test call acknowledge).

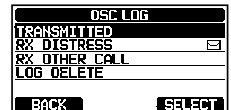
## NOTE

When the **"DSC LOG"** menu is selected, the transceiver may display high-priority logged calls automatically.

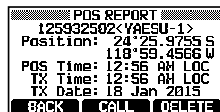
#### 11.10.1 Reviewing and Resending a Transmitted Logged Call

The transceiver allows transmitted logged calls to be reviewed and resent.

1. **[MENU/SET]** → **"DSC CALL"** → **"DSC LOG"**
2. Rotate the **DIAL/ENT** knob to select **"TRANSMITTED"**, then press the **[SELECT]** soft key.
3. Rotate the **DIAL/ENT** knob to select the station (name or MMSI number) you want to review and/or resend the call.
4. Press the **[SELECT]** soft key to review details of the selected station.



- Press the **[CALL]** soft key to resend the DSC call or press the **[BACK]** soft key to go back to the transmitted DSC call list.




### 11.10.2 Reviewing a Logged DSC RX Distress Alert and acknowledgement

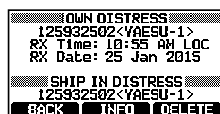
The transceiver allows logged DSC RX distress alerts and acknowledgements to be reviewed.

- [MENU SET]** ➡ “DSC CALL” ➡ “DSC LOG” ➡ “RX DISTRESS”

- Rotate the **DIAL/ENT** knob to select the station (name or MMSI number) of the distress alert you want to review its acknowledgement.

**NOTE:** When there is an unread received call, the “” icon will appear to the left of the logged call.


- Press the **[SELECT]** soft key to review details for the selected station.
- Press the **[INFO]** soft key to display more information or press the **[BACK]** soft key to go back to the received DSC distress call list.



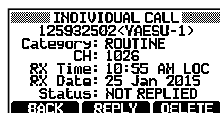
### 11.10.3 Reviewing Other Logged Calls

- [MENU SET]** ➡ “DSC CALL” ➡ “DSC LOG” ➡ “RX OTHER CALL”

- Rotate the **DIAL/ENT** knob to select the station (name or MMSI number) you want to review and/or call back.

**NOTE:** When received call is unread, the “” icon will appear to the left of the logged call.

- Press the **[SELECT]** soft key to review details of the selected station.
- Press the **[REPLY]** soft key to reply to the call or press the **[BACK]** soft key to return to the received call list.



## 11.10.4 Deleting Logged Calls from the DSC Log Directory

1. [  ] ➡ “DSC CALL” ➡ “DSC LOG” ➡ “LOG DELETE”

2. Rotate the **DIAL/ENT** knob to select the category (“TRANSMITTED”, “RX DISTRESS”, “RX OTHER CALL” or “ALL LOG”) to be deleted.



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

The display will show “**Do you want to delete the LOG?**”.

4. Press the [**YES**] soft key. (To cancel, press the [**NO**] soft key.)



5. Press the [**CLEAR**] key to return to radio operation.

### NOTE

The procedure above will delete all logged calls of the selected category at one time.

To delete logged calls one by one, review the details of the call you want to delete, then press the [**DELETE**] soft key.

## 12 NAVIGATION


The **GX2410** is capable of storing up to 250 waypoints for navigation using the compass page.

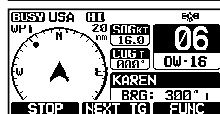
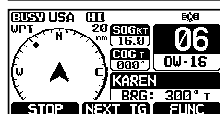
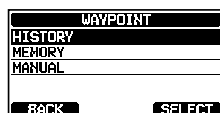
You can also navigate to a DSC distress call with location data, or to the position received from another DSC radio using DSC polling.

### 12.1 WAYPOINT OPERATION


#### 12.1.1 Starting and Stopping Navigation

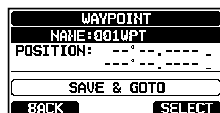
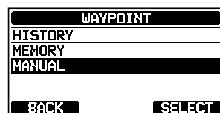
##### *Navigation Using the Waypoint Directory*

1. [  ]  $\Rightarrow$  "NAVI"  $\Rightarrow$  "WAYPOINT"
2. Rotate the **DIAL/ENT** knob to select the desired category ("**HISTORY**" or "**MEMORY**"), then press the [**SELECT**] soft key.
3. Rotate the **DIAL/ENT** knob to select a waypoint, then press the [**SELECT**] soft key. The navigation screen will appear.  
The navigation screen includes the distance and direction to the destination. The destination waypoint is indicated by a dot (●) inside the compass.
4. Press one of the soft keys, then press the [**STOP**] soft key to exit the navigation screen.

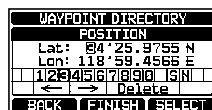


##### *Navigation by Manually Entering a Waypoint*

1. [  ]  $\Rightarrow$  "NAVI"  $\Rightarrow$  "WAYPOINT"
2. Rotate the **DIAL/ENT** knob to select "**MANUAL**", then press the [**SELECT**] soft key.
3. If you want to give the waypoint an easy-to-find name, rotate the **DIAL/ENT** knob to select "**NAME:**", press the [**SELECT**] soft key, then enter the name. For details, refer to "**11.4.1 Setting up the Individual / Position Call Directory**".
4. Rotate the **DIAL/ENT** knob to select "**POSITION:**", then press the [**SELECT**] soft key.

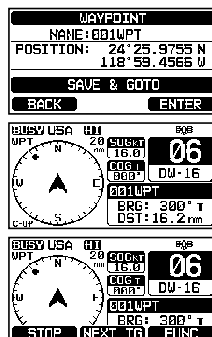


- Rotate the **DIAL/ENT** knob to select the first number of latitude, then press the [**SELECT**] soft key to step to the next number.
- Repeat step 5 to set the position.  
If a mistake is made, press the [**◀**] or [**▶**] key to select “←” or “→”, press the [**SELECT**] soft key until the incorrect character is selected, then perform step 5.
- When finished programming the position, press the [**FINISH**] soft key. The display will return to the previous screen.
- Rotate the **DIAL/ENT** knob to select “**SAVE & GOTO**”, then press the [**SELECT**] soft key.  
The navigation screen will appear.



The screen includes the distance and direction to the destination. The destination and the waypoint is indicated by a dot (●) inside the compass.

- Press one of the soft keys, then press the [**STOP**] soft key to exit the navigation screen.

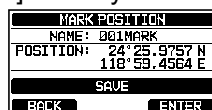
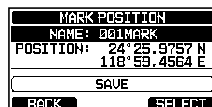


## 12.1.2 Setting Up Waypoint Directory


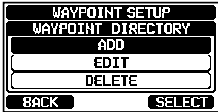
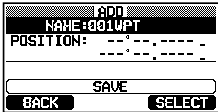
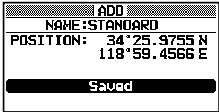
### Marking a Position

This feature allows the radio to mark the current position of the vessel.



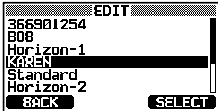

- Press & hold [**MENU / SET**] ➡ “**WAYPOINT SETUP**” ➡ “**MARK POSITION**”
- If you want to modify the name, rotate the **DIAL/ENT** knob to select “**NAME:**”, then press the [**SELECT**] soft key.
- Enter the waypoint name by rotating the **DIAL/ENT** knob and the [**SELECT**] soft key.  
When finished entering the name (using fifteen characters or less), press the [**FINISH**] soft key.
- If you want to modify the position, rotate the **DIAL/ENT** knob to select “**POSITION:**”, press the [**SELECT**] soft key, then enter the new coordinates.  
When finished modifying the position, press the [**FINISH**] soft key.
- Rotate the **DIAL/ENT** knob to select “**SAVE**”, then press the [**SELECT**] soft key to save the mark position into memory.
- Press the [**CLEAR**] key to return to radio operation.




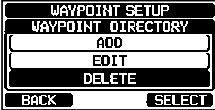

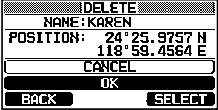
## Adding a Waypoint

1. Press & hold [  ]  $\Rightarrow$  "WAYPOINT SETUP"  $\Rightarrow$  "WAYPOINT 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. Enter the waypoint name by pressing the [◀] or [▶] key and the [SELECT] soft key.  
When finished entering the name (using fifteen characters or less), press the [FINISH] soft key.
5. Rotate the **DIAL/ENT** knob to select "**POSITION:**", press the [SELECT] soft key, then enter the waypoint coordinates.  
When finished entering the position, press the [FINISH] soft key.
6. Rotate the **DIAL/ENT** knob to select "**SAVE**", then press the [SELECT] soft key to save the waypoint into memory.
7. Press the [CLEAR] key to return to radio operation.

## Editing a Waypoint

1. Press & hold [  ]  $\Rightarrow$  "WAYPOINT SETUP"  $\Rightarrow$  "WAYPOINT DIRECTORY"
2. Rotate the **DIAL/ENT** knob to select "**EDIT**", then press the [SELECT] soft key.
3. Rotate the **DIAL/ENT** knob to select the waypoint to be edited, then press the [SELECT] soft key to show the waypoint input display.
4. Rotate the **DIAL/ENT** knob to select "**NAME:**" or "**POSITION:**", then press the [SELECT] soft key.
5. Press the [◀] or [▶] key to select "←" or "→", press the [SELECT] soft key until the character to be changed is selected, then enter a new character.
6. Repeat step 5 until the waypoint is updated.  
When finished editing, press the [FINISH] soft key.
7. Rotate the **DIAL/ENT** knob to select "**SAVE**", then press the [SELECT] soft key to store the edited waypoint into memory.
8. Press the [CLEAR] key to return to radio operation.

## Deleting a Waypoint

1. Press & hold [  ] ➡ “WAYPOINT SETUP” ➡ “WAYPOINT DIRECTORY”
2. Rotate the **DIAL/ENT** knob to select “DELETE”, then press the [SELECT] soft key.
3. Rotate the **DIAL/ENT** knob to select the waypoint to be deleted, then press the [SELECT] soft key.
4. Confirm the waypoint to be deleted, rotate the **DIAL/ENT** knob to select “OK”, then press the [SELECT] soft key.
5. Press the [CLEAR] key to return to radio operation.


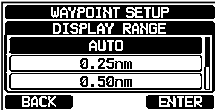
## Saving a DSC Position Call as a Waypoint

When a position is received from another DSC radio the **GX2410** allows the position to be saved as a waypoint.

Refer to section “11.7.4 Saving the Reported Position as a Waypoint” for details.


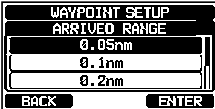
### 12.1.3 Selecting the Display Range

This menu item allows setting of the range on the compass display.

1. Press & hold [  ] ➡ “WAYPOINT SETUP” ➡ “DISPLAY RANGE”
2. Rotate the **DIAL/ENT** knob to select desired range. (Unit of measure depends on the settings in the GPS SETUP menu. Refer to section “19.7 UNITS OF MEASURE”.)
3. Press the [ENTER] soft key to store the selected setting.
4. Press the [CLEAR] key to return to radio operation.

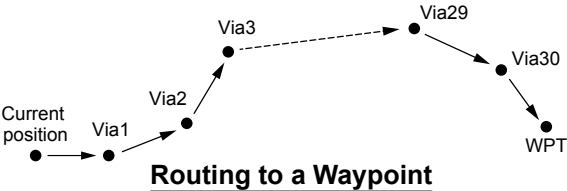
### 12.1.4 Selecting the Arrival Range

This menu setting determines the arrival range distance. An alert will sound when your vessel navigates to within the arrival range of the designated waypoint.

1. Press & hold [  ] ➡ “WAYPOINT SETUP” ➡ “ARRIVAL RANGE”
2. Rotate the **DIAL/ENT** knob to select desired range. (Unit of measure depends on the settings in the GPS SETUP menu. Refer to section “19.7 UNITS OF MEASURE”.)
3. Press the [ENTER] soft key to store the selected setting.
4. Press the [CLEAR] key to return to radio operation.

# 12.2 ROUTING OPERATION

The **GX2410** permits setting 1 to 30 waypoints along the route to a destination.




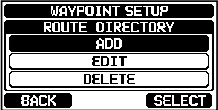

## 12.2.1 Setting Up Routing Directory

### NOTE

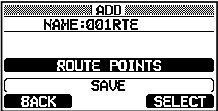
All the destinations and via-points must be programmed as waypoints in the memory. Refer to section “12.1.2 Setting Up Waypoint Directory”.

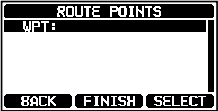
### Adding a Route


- Press & hold [  ] ➡ “WAYPOINT SETUP” ➡ “ROUTE DIRECTORY”
- Rotate the **DIAL/ENT** knob to select “ADD”, then press the [SELECT] soft key.

  

- Rotate the **DIAL/ENT** knob to select “NAME:”, then press the [SELECT] soft key.
- Enter the route name by rotating the **DIAL/ENT** knob and the [SELECT] soft key.

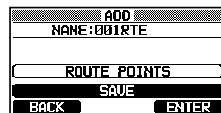
When finished entering the name (using fifteen characters or less), press the [FINISH] soft key.
- Rotate the **DIAL/ENT** knob to select “ROUTE POINTS”, press the [SELECT] soft key.


- Rotate the **DIAL/ENT** knob to select “WPT:”, then press the [SELECT] soft key.
- Rotate the **DIAL/ENT** knob to select a waypoint, then press the [SELECT] soft key.


- Rotate the **DIAL/ENT** knob to select “Via 1:”, then press the [SELECT] soft key.


- Rotate the **DIAL/ENT** knob to select a waypoint, then press the [SELECT] soft key.

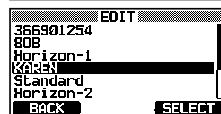
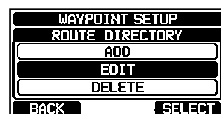
10. Repeat steps 8 and 9 to add more via-points.
11. Press the **[BACK]** soft key.
12. Rotate the **DIAL/ENT** knob to select “**SAVE**”, then press the **[ENTER]** soft key to store the route into memory.
13. Press the **[CLEAR]** key to return to radio operation.



### Editing a Route

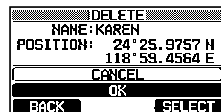
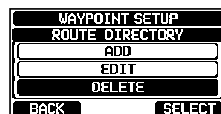
This function allows a previously entered route to be edited.

1. Press & hold **[MENU/SET]** ➡ “**WAYPOINT SETUP**” ➡ “**ROUTE DIRECTORY**”
2. Rotate the **DIAL/ENT** knob to select “**EDIT**”, then press the **[SELECT]** soft key.
3. Rotate the **DIAL/ENT** knob to select the route to be edited, then press the **[SELECT]** soft key to show the route input display.
4. Perform steps 3 to 11 of the previous page until the route is updated.
5. Rotate the **DIAL/ENT** knob to select “**SAVE**”, then press the **[SELECT]** soft key to store the edited route into memory.
6. Press the **[CLEAR]** key to return to radio operation.



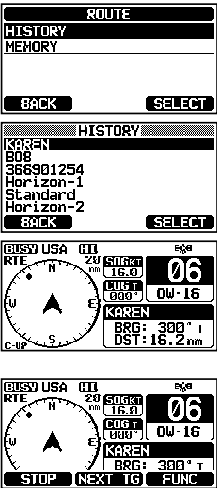
### Deleting a Route

1. Press & hold **[MENU/SET]** ➡ “**WAYPOINT SETUP**” ➡ “**ROUTE DIRECTORY**”
2. Rotate the **DIAL/ENT** knob to select “**DELETE**”, then press the **[SELECT]** soft key.
3. Rotate the **DIAL/ENT** knob to select the route to be deleted, then press the **[SELECT]** soft key.
4. Confirm the route to be deleted, Rotate the **DIAL/ENT** knob to select “**OK**”, then press the **[SELECT]** soft key.
5. Press the **[CLEAR]** key to return to radio operation.



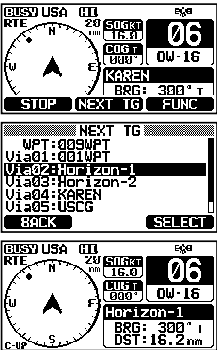
12.2.2 Starting and Stopping Route Navigation

- 1. [ MENU / SET ] ➡ “NAVI” ➡ “ROUTE”
- 2. Rotate the DIAL/ENT knob to select the desired category (“HISTORY” or “MEMORY”), then press the [SELECT] soft key.
- 3. Rotate the DIAL/ENT knob to select a route, then press the [SELECT] soft key. The navigation screen with “RTE” indicator appears.
- 4. A message “ARRIVED” will appear when the first target point is reached.  
To start navigation to the next target, press the [YES] soft key.
- 5. Press one of the soft keys, then press the [STOP] soft key to exit the navigation screen.



12.2.3 Changing the Destination

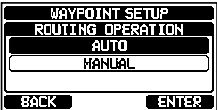
- 1. On the navigation screen, press one of the soft keys, then press the [NEXT TG] soft key.
- 2. Rotate the DIAL/ENT knob to select the desired destination, then press the [SELECT] soft key.
- 3. The navigation screen with the new destination appears.



12.2.4 Selecting Automatic or Manual Routing

When your vessel arrives at a via waypoint, this setting determines whether or not navigation to the next waypoint will continue automatically or must be initiated manually.

- 1. Press & hold [ MENU / SET ] ➡ “WAYPOINT SETUP” ➡ “ROUTING OPERATION”
- 2. Rotate the DIAL/ENT knob to select “AUTO” or “MANUAL”, then press the [ENTER] soft key.
- 3. Press the [CLEAR] key to return to radio operation.



## 13 GM OPERATION

The GM (Group Monitor) feature of the **GX2410** utilizes the same system as the DSC Group call and Auto Position Polling, to display the group members' locations.

### 13.1 SETTING UP GM OPERATION

The transceiver is capable of storing up to 10 groups with 1 to 9 members each.

#### 13.1.1 Setting Up GM Group Directory

##### NOTE

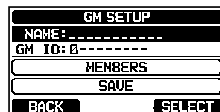
- For this function to operate, the same group MMSI must be programmed into the transceivers of all the group members to be monitored. Refer to section “**11.5.1 Setting up a Group Call**” for details.
- Group members for GM operation can only be selected from the Individual/ Position Call directory, therefore for all members that you want to monitor, must be stored in the directory. Refer to section “**11.4.1 Setting up the Individual / Position Call Directory**” for details.

1. Press & hold [  ] ➡ “GM SETUP” ➡ “GM GROUP 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. Enter the route name by rotating the **DIAL/ENT** knob and the [SELECT] soft key.

When finished entering the name (using eleven characters or less), press the [FINISH] soft key.

5. Rotate the **DIAL/ENT** knob to select “GM ID:”, press the [SELECT] soft key, then enter the group MMSI number.

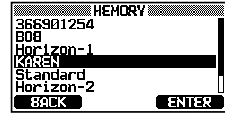


When finished entering the MMSI, press the [FINISH] soft key.

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



7. Rotate the **DIAL/ENT** knob to select a directory list number, then press the [**SELECT**] soft key.
8. Rotate the **DIAL/ENT** knob to select a member from the Individual directory, then press the [**SELECT**] soft key.
9. Repeat steps 8 to add members to the group, then press the [**BACK**] soft key.
10. Press the [**BACK**] soft key to return to the “NAME:” and “GM ID:” screen.
11. Rotate the **DIAL/ENT** knob to select “**SAVE**” to store the data, then press the [**ENTER**] soft key.
12. To enter another group directory, repeat steps 2 through 11.
13. Press the [**CLEAR**] key to return to radio operation.



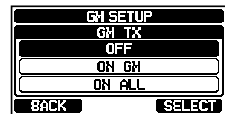
### 13.1.2 Setting Up the Polling Time Interval

1. Press & hold [ **MENU / SET** ] ➡ “GM SETUP” ➡ “INTERVAL”
2. Rotate the **DIAL/ENT** knob to select the desired polling interval time, then press the [**ENTER**] soft key.
3. Press the [**CLEAR**] key to return to radio operation.



### 13.1.3 Enabling/Disabling Transmission during GM Operation

1. Press & hold [ **MENU / SET** ] ➡ “GM SETUP” ➡ “GM TX”
2. Rotate the **DIAL/ENT** knob to select the desired transmission type, then press the [**ENTER**] soft key.




- OFF: Disables the transmission during GM operation.
- ON GM: Enables the transmission during the GM target display.
- ON ALL: Enables the transmission during the GM operation.
3. Press the [**CLEAR**] key to return to radio operation.

## 13.2 STARTING GM OPERATION

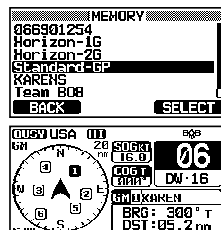
### NOTE

To start GM operation, configure the GM Group Directory setting in setup menu. Otherwise, you cannot start the GM operation. Refer to section “**13.1.1 Setting Up GM Group Directory**” for details.

1. [  ] ➡ “GM”
2. Rotate the **DIAL/ENT** knob to select a group you want to monitor, then press the [SELECT] soft key.

The GM operation begins, and the GM target display appears.

3. Press the [CLEAR] key to return to radio operation.

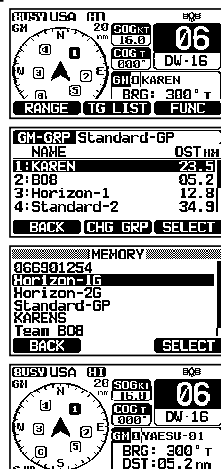


### 13.2.1 Changing the GM Group Being Monitored

1. On the GM target display, press one of the soft keys, then press the [TG LIST] soft key.
2. Press the [CHG GRP] soft key.
3. Rotate the **DIAL/ENT** knob to select the name of the group you want to monitor, then press the [SELECT] soft key.

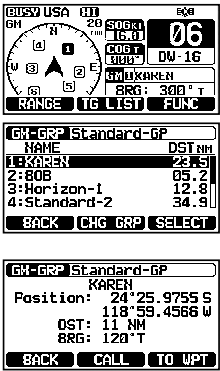
The GM group being monitored changes. The GM target display appears.

4. Press the [CLEAR] key to return to radio operation.



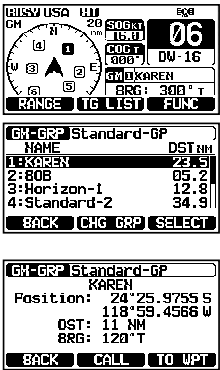
### 13.2.2 Transmitting a DSC Call to a Group Member

1. On the GM target display, press one of the soft keys, then press the **[TG LIST]** soft key.
2. Rotate the **DIAL/ENT** knob to select a member you want to call.
3. Press the **[SELECT]** soft key to display the location, distance, and bearing of the selected member.
4. Press the **[CALL]** soft key to transmit a DSC Individual call to the selected member.



### 13.2.3 Starting Navigation to a Group Member

1. On the GM target display, press one of the soft keys to show the key selections.
2. Press the **[TG LIST]** soft key.
3. Rotate the **DIAL/ENT** knob to select a member you want to approach.
4. Press the **[SELECT]** soft key to display the location, distance, and bearing of the selected member.
5. Press the **[TO WPT]** soft key to start navigation to the selected member. (Press the **[BACK]** soft key twice to cancel and return to the GM target display.)



# 14 AUTOMATIC IDENTIFICATION SYSTEM (AIS)

## 14.1 GENERAL

### NOTE

The **GX2410** does not require a special marine VHF antenna to receive AIS transmissions. The **GX2410** does not transmit AIS signals, it is NOT recommended to use an antenna dedicated for AIS operation.

The Automatic Identification System (AIS) is a short range coastal tracking system. AIS is intended to assist in collision avoidance by seeing positions and courses of AIS equipped vessels around your vessel.

AIS is mandatory on passenger ships, irrespective of size, all ships 300 gross tonnage and larger engaged on international voyages, cargo ships of 500 gross tonnage and larger not engaged on international voyages.

AIS uses two marine VHF channels. Each ship equipped with an AIS transponder transmits a packet every few seconds with information about the ship and its voyage. Radio frequencies: AIS1 = 161.975MHz and AIS2 = 162.025MHz. A stand-alone AIS receiver or the AIS receiver built in to a Class A or Class B transponder can pick up these radio signals and translate them into a NMEA data sentence that can be understood by a computer with the proper software or by an AIS-enabled chart plotter.

### Classes of AIS:

Class A - 12.5W power output - mandated for use on SOLAS Chapter V vessels (and others in some countries).

Class B CS - 2W output - lower cost derivative for leisure and non-SOLAS markets.

The **GX2410** is capable of receiving Class A and Class B CS transmissions with the internal Dual Channel AIS receiver.


## 14.2 AIS OPERATION

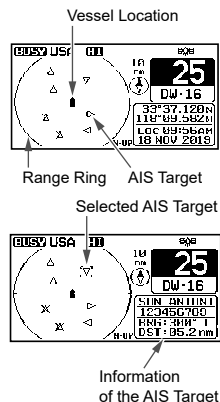
The **GX2410** is equipped with an AIS receiver and can display AIS targets around your vessel on the radio's display. Therefore, you can identify and avoid in proximity to your vessel.

### NOTE



To show AIS targets on the radio's display, the internal or external GPS needs to be fixed own location so the radio knows its position relative to the AIS targets.

1.  → "AIS"

The AIS display shows your vessel as a “” icon in the center of the display. AIS targets are shown as triangles. The line projected from the circle is the AIS vessels course over ground (COG).



2. Rotate the **DIAL/ENT** knob to change the AIS target. Rotating the **DIAL/ENT** knob counterclockwise sequentially displays AIS vessels in order closest to your ship. Rotating the **DIAL/ENT** knob clockwise sequentially displays AIS vessels in order furthest from your ship.

The selected AIS target is displayed with “” icon, while other stations are displayed with “” icon.

**NOTE:** Up to 15 AIS targets can be shown on the display. All received AIS targets are displayed on the compatible chart plotter or navigation software via NMEA 0183 or NMEA 2000.

3. Press the **[CLEAR]** key to return to radio operation.

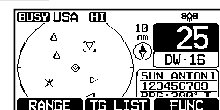
#### 14.2.1 Displaying the AIS Target Information Screen

1. On the AIS screen, press one of the soft keys to show the key selections. These selections are described below:

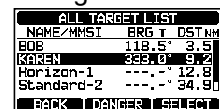
**[RANGE]:** Press this key to change the display range of the screen.

**[TG LIST]:** Press this key to show a list of the MMSI numbers or the vessel names being received.

**[FUNC]:** Press this key to show the function menu.

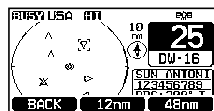
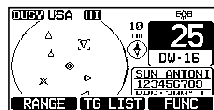


2. Press the **[TG LIST]** soft key to show a list of AIS target being received.
3. Rotate the **DIAL/ENT** knob to select the MMSI number (or vessel name). then press the **[SELECT]** soft key. Pressing the **[DANGER]** soft key changes the order to the TCPA time order.
4. The AIS target information screen appears. To see more information of the AIS target, rotate the **DIAL/ENT** knob. Press the **[BACK]** key to return to a list of AIS target.
5. Press the **[EXIT]** key to return to radio operation.



## 14.2.2 Changing the AIS Range

1. On the AIS screen, press one of the soft keys to show the key selections.
2. Press the **[RANGE]** soft key. Press the soft keys at the center and right side to select the radius range to display on the AIS screen.
3. Press the **[BACK]** soft key to return to AIS screen.



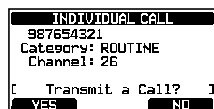
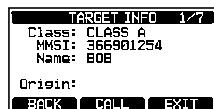
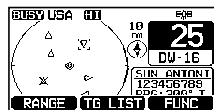
### NOTE

You may change the display range unit of the AIS screen, refer to section "19.7 UNITS OF MEASURE".

## 14.2.3 Transmitting an Individual Call to an AIS Ship

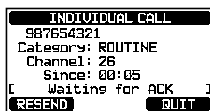
It is possible for the **GX2410** to transmit a DSC individual call to a received AIS target by the procedure below:

1. On the AIS screen, press one of the soft keys to show the key selections.
2. Press the **[TG LIST]** soft key to show a list of AIS target being received.
3. Rotate the **DIAL/ENT** knob to select the MMSI number (or vessel name). then press the **[SELECT]** soft key.
4. Press the **[CALL]** soft key
5. 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.
6. To transmit an individual DSC call to the select AIS ship, press the **[YES]** soft key.



After the **GX2410** transmits, the radio waits for the DSC radio on the AIS ship to transmit a reply, at which time the radio will ring like a telephone. Pick up the microphone, press the **PTT** switch and talk to the AIS vessel.

7. Press the **[QUIT]** soft key to return to AIS screen.
8. Press the **[CLEAR]** key to return to radio operation.



#### 14.2.4 CPA/TCPA Alarm Functions

The CPA (Closest Point of Approach) alarm sounds when other AIS vessels enter within the range set as the CPA Limit. For details, refer to section “**14.3.1 CPA**”.

The TCPA (Time to Closest Point of Approach) alarm sounds according to the time set as the TCPA Limit which is the time taken until other AIS vessels enter within the range set as the CPA Limit. For details, refer to section “**14.3.2 TCPA**”.

1. If other AIS vessels approach your ship, the alarm sounds according to the CPA Limit and TCPA Limit that you set in advance.

The alarm sound will stop after about 10 seconds.

2. Press any key.

The targets for the CPA/TCPA alarm will appear with “**[ ]**” and flash.

Up to 15 targets for the CPA/TCPA alarm can be shown on the screen.

**NOTE:** If the display is in a mode other than AIS, the radio automatically switches to the AIS mode.

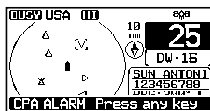
3. On the display you will notice 3 soft key selections. These selections are described below:

**[INFO]:** Pressing this key shows the information screen of the CPA/TCPA alarm targets.

**[CALL]:** Pressing this key switches the screen to the setting screen for transmitting individual DSC calls.

**[EXIT]:** Press this key to return to AIS screen.

4. To transmit individual calls to the CPA/TCPA alarm targets, follow steps 4 through 8 in “**14.2.3 Transmitting an Individual Call to an AIS Ship**”



## 14.2.5 Changing the Compass Display

The compass display can be switched between “COURSE-UP” and “NORTH-UP”. The default setting is “COURSE-UP”.

Refer to section “**19.2 COMPASS DIRECTION**” for details.

## 14.3 AIS SETUP

### 14.3.1 CPA

This function allows you to set the CPA (Closest Point of Approach)\* alarm distance.

※: CPA means the positions at which two moving vessels reach their closest possible distance.

1. Press & hold [  ] ➡ “AIS SETUP” ➡ “CPA”

2. Rotate the **DIAL/ENT** knob to select the distance you want the radio to alert you of an approaching AIS equipped vessel. You can select one from “**0.1nm**” to “**20nm**” (“1nm” is default).
3. Press the [ENTER] soft key to store the selected setting.
4. Press the [CLEAR] key to return to radio operation.



### 14.3.2 TCPA

This function allows you to set the TCPA (Time to Closest Point of Approach)\* alarm.

※: Setting up a TCPA alarm sets a time point where the radio will alarm when an AIS equipped vessel approaching is within the time selected.

1. Press & hold [  ] ➡ “AIS SETUP” ➡ “TCPA”


2. Rotate the **DIAL/ENT** knob to select the time you want the radio to alert you of an approaching AIS equipped vessel. The time can be set from “**1min**” to “**60min**” (“10min” is default).
3. Press the [ENTER] soft key to store the selected setting.
4. Press the **CLEAR** key to return to radio operation.



14.3.3 CPA/TCPA Alarm

Enable/disable the CPA/TCPA alarm functions. The default setting is “OFF”.

1.

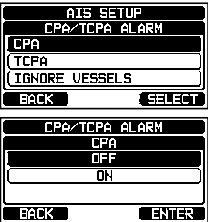
Press & hold [  ] ➡ “AIS SETUP” ➡ “CPA/TCPA ALARM”
2.

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

Rotate the **DIAL/ENT** knob to select “**OFF**” or “**ON**”.
4.

Press the [ **ENTER** ] soft key to store the selected setting.
5.

Press the [ **CLEAR** ] key to return to radio operation.




NOTE

The alarm sound will automatically stop after about 10 seconds. Press any key to stop the alarm sound and display the AIS screen. The alarm is produced from the front panel speaker, the speaker in the microphone, the optional external speaker and optional **RAM4** and **RAM4X** microphone when connected.

14.3.4 IGNORE VESSELS

This function allows listed registered AIS vessels to be ignored by the CPA / TCPA alarm function.

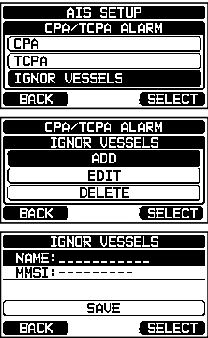
1.

Press & hold [  ] ➡ “AIS SETUP” ➡ “CPA/TCPA ALARM”
2.

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

Rotate the **DIAL/ENT** knob to select “**ADD**”, then press the [ **SELECT** ] soft key.
4.

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



5. Press the [◀] or [▶] key to select the letters of the name of the vessel or person you want to reference in the ignore vessel.



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

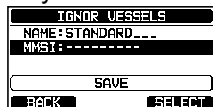
7. Repeat steps 5 and 6 until the name is complete.

The name can consist of up to eleven 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 MMSI number, press the [◀] or [▶] key to select "←" or "→", press the [SELECT] soft key until the wrong character is selected, then perform step 5.

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

9. Rotate the **DIAL/ENT** knob to select "MMSI:", then press the [SELECT] soft key.



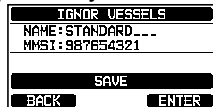
10. Press the [◀] or [▶] key to select numbers, 0 - 9. To enter the desired number and move one space to the right by pressing the [SELECT] soft key. Repeat this procedure until all nine space of the MMSI number are entered.



If a mistake was made entering in the MMSI number, press the [◀] or [▶] key to select "←" or "→", press the [SELECT] soft key until the wrong character is selected, then perform step 10.

11. When the MMSI number is entered, press the [FINISH] soft key.

12. To store the entered data, rotate the **DIAL/ENT** knob to select "SAVE", then press the [SELECT] soft key.



13. To enter another AIS vessel, repeat steps 3 through 12.


14. Press the [CLEAR] key to return to radio operation.

## 15 NMEA 2000 SETUP

Set the device numbers and system numbers of devices connected to the NMEA 2000 network.

### 15.1 SELECT DEVICE

Select the device for which you want to set the device number and system number.

1. Press & hold [  ] ➡ “NMEA2000 SETUP” ➡ “SELECT DEVICE”
2. In the SELECT DEVICE list, rotate the **DIAL/ENT** knob to select the external device for which the device number and the system number are to be set.
3. Press the [**SELECT**] soft key to store the selected setting.
4. Press the [**CLEAR**] key to return to radio operation.




#### NOTE

If any devices connected to the network are not displayed in the list, press the [**SEARCH**] soft key to update the list.

### 15.2 DEVICE NUMBER


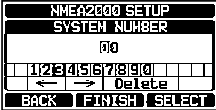
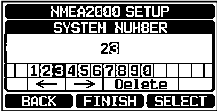
If connecting two or more the **GX2410** series, change the device number of either one. Set the device number of the device selected in “15.1 SELECT DEVICE”.

1. Press & hold [  ] ➡ “NMEA2000 SETUP” ➡ “DEVICE NUMBER”
2. Rotate the **DIAL/ENT** knob to select the first digit of the device number, then press the [**SELECT**] soft key to step to the next number.
3. Repeat step 2 to set the device number within the range of 000 to 251. (“000” is default).
4. If a mistake is made entering in the device number, press the [◀] or [▶] key to select “←” or “→”, press the [**SELECT**] soft key until the incorrect character is selected, and perform step 2.
5. When finished programming the device number, press the [**FINISH**] soft key.
6. Press the [**CLEAR**] key to return to radio operation.



## 15.3 SYSTEM NUMBER

Set the system number of the device selected in “15.1 SELECT DEVICE”.

1. Press & hold [  ] ➡ “NMEA2000 SETUP” ➡ “SYSTEM NUMBER”
2. Press the [◀] or [▶] key to select the first digit of the system number, then press the [SELECT] soft key to step to the next number. 
3. Repeat step 2 to set the system number within the range of 00 to 15. (“00” is default).
4. If a mistake is made entering in the system number, press the [◀] or [▶] key to select “←” or “→”, press the [SELECT] soft key until the incorrect character is selected, then perform step 2.
5. When finished programming the system number, press the [FINISH] soft key. 
6. Press the [CLEAR] key to return to radio operation.

## 15.4 SUMMARY OF THE NMEA 2000 SETUP

| Item          | Description  | Default Value | Page |
|---------------|--|---------------|------|
| SELECT DEVICE | Select the device for which you want to set the device number or the system number | –             | 94   |
| DEVICE NUMBER | Set the device number  | 000           | 94   |
| SYSTEM NUMBER | Set the system number  | 00            | 95   |

## 15.5 COMPATIBLE NMEA 2000 PGN LIST

| Receive |                                       | Transmit |                                       |
|---------|---------------------------------------|----------|---------------------------------------|
| 059392  | ISO Acknowledgement                   | 059392   | ISO Acknowledgement                   |
| 059904  | ISO Request                           | 059904   | ISO Request                           |
| 060928  | ISO Address Claim                     | 060928   | ISO Address Claim                     |
| 065240  | ISO Commanded Address                 | –        | –                                     |
| 126464  | Receive/Transmit PGN's group function | 126464   | Receive/Transmit PGN's group function |
| 126993  | Heartbeat                             | 126993   | Heartbeat                             |
| 126996  | Product Information                   | 126996   | Product Information                   |
| 127237  | Heading/Track Control                 | –        | –                                     |
| 127250  | Vessel Heading                        | –        | –                                     |
| 127258  | Magnetic Variation                    | –        | –                                     |
| 128259  | Speed                                 | –        | –                                     |
| 129025  | Position, Rapid Update                | –        | –                                     |
| 129026  | COG and SOG, Rapid Update             | –        | –                                     |
| 129029  | GNSS Position Data                    | 129029   | GNSS Position Data                    |
| 129033  | Local Time Offset                     | –        | –                                     |

| Receive |                   | Transmit |   |
|---------|-------------------|----------|---|
| -       | -                 | 129038   | AIS Class A Position Report                 |
| -       | -                 | 129039   | AIS Class B Position Report                 |
| -       | -                 | 129040   | AIS Class B Extended Position Report        |
| -       | -                 | 129041   | AIS Aids to Navigation (AtoN) Report        |
| -       | -                 | 129793   | AIS UTC and Date Report (Base Station)      |
| -       | -                 | 129794   | AIS Class A Static and Voyage Related Data  |
| -       | -                 | 129796   | AIS Acknowledge                             |
| -       | -                 | 129797   | AIS Binary Broadcast Message                |
| -       | -                 | 129798   | AIS SAR Aircraft Position Report            |
| -       | -                 | 129799   | Radio Frequency/Mode/Power                  |
| -       | -                 | 129801   | AIS Addressed Safety Related Message        |
| -       | -                 | 129802   | AIS Safety Related Broadcast Message        |
| -       | -                 | 129808   | DSC Call Information                        |
| -       | -                 | 129809   | AIS Class B "CS" Static Data Report, Part A |
| -       | -                 | 129810   | AIS Class B "CS" Static Data Report, Part B |
| 129540  | GNSS Sats in View | 129540   | GNSS Sats in View                           |

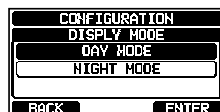
## 16 CONFIGURATION SETUP

### 16.1 DISPLAY MODE

The display mode can be selected according to the time of day you operate the radio.

1. Press & hold [  ] ➡ “**CONFIGURATION**” ➡ “**DISPLAY MODE**”

2. Rotate the **DIAL/ENT** knob to select the desired setting. Select the “**DAY MODE**” or “**NIGHT MODE**” setting.



DAY MODE: Normal display mode.

NIGHT MODE: Low brightness display mode for night use.

3. Press the [**ENTER**] soft key to store the selected setting.
4. Press the [**CLEAR**] key to return to radio operation.

### 16.2 DIMMER ADJUSTMENT

This menu selection adjusts the backlight intensity.

1. Press & hold [  ] ➡ “**CONFIGURATION**” ➡ “**DIMMER**”

2. Rotate the **DIAL/ENT** knob to select the desired level (“7” is default). When “OFF” is selected, the lamp is turned OFF.



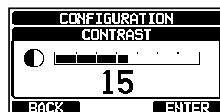
3. Press the [**ENTER**] soft key to store the selected level.
4. Press the [**CLEAR**] key to return to radio operation.

### 16.3 DISPLAY CONTRAST

The display contrast can be adjusted to suit your operation environment.

1. Press & hold [  ] ➡ “**CONFIGURATION**” ➡ “**CONTRAST**”

2. Rotate the **DIAL/ENT** knob to select the desired level. The contrast level can be set from “1” to “30” (“15” is default).



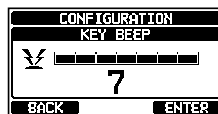
3. Press the [**ENTER**] soft key to store the selected level.
4. Press the [**CLEAR**] key to return to radio operation.

## 16.4 KEY BEEP

This selection is used to select the beep tone volume level when a key is pressed.

1. Press & hold [  ] ➡ **“CONFIGURATION”** ➡ **“KEY BEEP”**

2. Rotate the **DIAL/ENT** knob to select the desired level.  
The beep level can be set from **“1”** to **“7”**, or **“OFF”**  
(**“4”** is default).



3. Press the [**ENTER**] soft key to store the selected level.
4. Press the [**CLEAR**] key to return to radio operation.

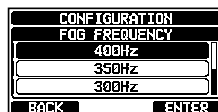
## 16.5 FOG ALERT TONE FREQUENCY

The function allows the radio to be setup to send the proper fog frequency which is dependent on vessel size, shown below:

- 70 - 200Hz: Vessel that are 660 feet (200 meters) or more in length
- 130 - 350Hz: Vessel that are 247.5 feet (75 meters) or more but less than 660 feet (200 meters) in length
- 250 - 700Hz: Vessel that are 66 feet (20 meters) or more but less than 247.5 feet (75 meters) in length
- 250 - 700Hz: Vessel that are 39.6 feet (12 meters) or more but less than 66 feet (20 meters) in length

1. Press & hold [  ] ➡ **“CONFIGURATION”** ➡ **“FOG FREQUENCY”**

2. Rotate the **DIAL/ENT** knob to select the desired level. The frequency level can be set from **“200Hz”** to **“850Hz”** (**“400Hz”** is default).
3. Press the [**ENTER**] soft key to store the selected setting.
4. Press the [**CLEAR**] key to return to radio operation.



### NOTE

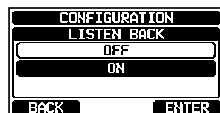
By default, the radio Fog frequency is set to 400 Hz. In most cases this frequency should not be changed unless the vessel is very large.

## 16.6 LISTEN BACK

While in PA, FOG HORN, or HORN mode, toggle the listen back function between ON and OFF.

1. Press & hold [  ] ➡ **"CONFIGURATION"** ➡ **"LISTEN BACK"**

2. Rotate the **DIAL/ENT** knob to select **"OFF"** or **"ON"** ("ON" is default).
3. Press the [ENTER] soft key to store the selected setting.
4. Press the [CLEAR] key to return to radio operation.



## 16.7 STATION NAME

This function allows you to change the name of the radio or second station microphone.

1. Press & hold [  ] ➡ **"CONFIGURATION"** ➡ **"STATION NAME"**

2. With the second station microphone connected, rotate the **DIAL/ENT** knob to select the unit to be named, then press the [SELECT] soft key.
3. Rotate the **DIAL/ENT** knob to select to scroll through the first letter of the new station name.
4. Press the [SELECT] soft key to store the first letter in the name and step to the next letter to the right.
5. Repeat steps 3 and 4 until the name is complete. The name can consist of up to ten characters, and if you do not use all ten 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 station name, rotate the **DIAL/ENT** knob to select "←" or "→", press the [SELECT] soft key until the wrong character is selected, then perform steps 3 and 4.

6. When finished entering the station name (using ten characters or less), press the [FINISH] soft key to advance to the second station name entry.
7. Rotate the **DIAL/ENT** knob to select **"SSM-70H"**, then press the [SELECT] soft key.
8. Rotate the **DIAL/ENT** knob to select to scroll through the first letter of the new station name.



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



10. Repeat steps 8 and 9 until the name is complete. The name can consist of up to ten characters, and if you do not use all ten 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 station name, rotate the **DIAL/ENT** knob to select "←" or "→", press the **[SELECT]** soft key until the wrong character is selected, then perform steps 8 and 9.

11. When finished entering the station name (using ten characters or less), press the **[FINISH]** soft key.
12. Press the **CLEAR** key to return to radio operation.

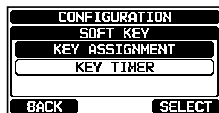
## 16.8 SOFT KEYS

From this menu, you can assign desired functions to each soft key from numbers 01 to 12. You can also set how long the soft key icon will be displayed after the corresponding soft key is pressed.

### 16.8.1 Key Assignment

1. Press & hold **[MENU/SET]** ➡ **"CONFIGURATION"** ➡ **"SOFT KEY"**

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
























3. Rotate the **DIAL/ENT** knob to select the key number to be programmed, and press the **[SELECT]** soft key.



4. Rotate the **DIAL/ENT** knob to select a new function to be assigned, and press the **[ENTER]** soft key. Available functions are listed below. By selecting "NONE" the soft key assignment is removed.



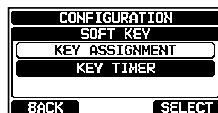
5. Repeat steps 3 and 4 to program other soft keys.  
The VHF radio functions can be assigned to a maximum of 12 soft keys.
6. Press the **[CLEAR]** key to return to radio operation.

| DISPLAY        | SOFT KEY<br>ICON  | FUNCTION   |
|----------------|---|--|
| NONE           | —   | —  |
| TX HI/LO       |    | Selects transmit power   |
| WX/CH          |    | Switches channels between weather and marine   |
| SCAN           |    | Turns the scanning function ON or OFF  |
| MULTI WATCH    |    | Starts and stops dual watch or triple watch scan   |
| MARK POSITION  |    | Marks the current position for a “Waypoint”  |
| SCAN MEMORY    |    | Add or remove channels from memory channel scan  |
| PRESET         |    | Programs or deletes the preset memory channel  |
| MAN OVERBOARD  |    | Marks the position where a person falls overboard  |
| NOISE CANCEL   |    | Enables the noise canceling settings display   |
| CH NAME        |    | Edit channel names   |
| SCRAMBLER      |    | Configures the secret communication settings.  |
| COMPASS        |    | Enables the “Compass” display  |
| NAVIGATION     |    | Enables the “Waypoint” or “Route” navigation display   |
| FOG HORN       |    | Select FOG HORN mode   |
| INTERCOM       |    | Activates intercom between radio and RAM4 microphone (optional SSM-70H (RAM4) or SSM-72H (RAM4X) required) |
| GPS LOGGER     |   | Starts and stops logging position data   |
| AIS DISPLAY    |  | Shows the “AIS” display  |
| HORN BUTTON    |  | Activates the Fog Horn function  |
| PUBLIC ADDRESS |  | Switches channels between weather and marine   |
| RX SENSE       |  | Toggles between LOCAL and DISTANCE   |
| DISPLAY MODE   |  | Switches the display between daytime and nighttime mode  |

## 16.8.2 Key Timer

1. Press & hold [  ] ➡ “CONFIGURATION” ➡ “SOFT KEY”

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



3. Rotate the **DIAL/ENT** knob to select the desired time, default is 10 seconds.
4. Press the [ENTER] soft key to store the selected setting.
5. Press the [CLEAR] key to return to radio operation.

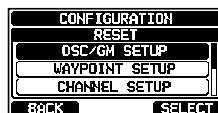


## 16.9 RESET

The memory and the setup categories may be reset independently, or the transceiver may be reset to the original factory settings.

1. Press & hold [  ] ➡ “CONFIGURATION” ➡ “RESET”

2. Rotate the **DIAL/ENT** knob to select the desired category from: “DSC/GM SETUP”, “WAYPOINT SETUP”, “CHANNEL SETUP”, “GPS SETUP”, “CONFIGURATION”, “FACTORY” (all settings\* except the “MMSI” will be initialized), “USER MMSI”.



\*(The Individual Directory is also cleared.)

For details on resetting “USER MMSI”, refer to “16.9.1 Reset the USER MMSI”.

3. Press the [SELECT] soft key.
4. Press the [YES] soft key. (To cancel, press the [NO] soft key.)
5. Press the [OK] soft key.
6. Press the [CLEAR] key to return to radio operation.



## 16.9.1 Reset the USER MMSI

If the MMSI number need to be reset. Please contact Standard Horizon to obtain the required reset codes.

### To request the Reset Code

Contact Standard Horizon and confirm the following required information.

#### • The Information Necessary to obtain the Reset Code:

- Model name
- Serial number
- Current MMSI number  
(To check the MMSI number, refer to “8.6.1 Maritime Mobile Service Identity (MMSI)”.
- Request codes for the MMSI number  
(See “ **Checking the Request code**” below).

#### • Contact Information

##### USA/Canada

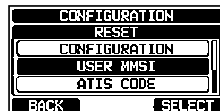
E-mail: [marinetech@yaesu.com](mailto:marinetech@yaesu.com)

Telephone: (800) 767-2450

### Checking the Request code

1. Press & hold [  ] ➡ “CONFIGURATION” ➡ “RESET”

2. Rotate the **DIAL/ENT** knob to select the desired category. You can select either “**USER MMSI**”, then press the [**SELECT**] soft key.



3. Press the [**SELECT**] soft key again.  
The request code will be displayed.



### NOTE

When resetting “USER MMSI”, request codes are required.

## Resetting the USER MMSI

Here is the procedure for resetting the USER MMSI after obtaining the reset codes.

1. The RESET screen is displayed on step 2 in “**Checking the Request code**”.
2. Rotate the **DIAL/ENT** knob to select “**PASSWORD**”, then press the [**SELECT**] soft key.  
The password input screen will appear.



3. Press the [**◀**] or [**▶**] key to select the first digit of the reset password, then press the [**SELECT**] soft key to step to the next number.
4. Repeat steps 3 until the reset password is complete. If a mistake is made entering in the station name, press the [**◀**] or [**▶**] key to select “←” or “→”, press the [**SELECT**] soft key until the incorrect character is selected, then perform step 3.



5. Press the [**FINISH**] soft key.  
If the reset is successful, “**Completed!**” will appear on the screen.  
If the error message is displayed, input the reset code again.
6. Press the [OK] soft key to return to the setup screen.



### **NOTE**

The acquired reset password is available only one time.

## 16.10 SUMMARY OF THE CONFIGURATION SETUP

| Item                     | Description   | Default Value | Page |
|--------------------------|---|---------------|------|
| DISPLAY MODE             | Toggles LCD display mode between daytime and nighttime mode | DAY MODE      | 97   |
| DIMMER                   | Adjusts the backlight level of the LCD and keypad           | 7             | 97   |
| CONTRAST                 | Adjusts the contrast of the LCD                             | 15            | 97   |
| KEY BEEP                 | Adjusts the volume of beep tone when a key is pressed       | 4             | 98   |
| FOG ALERT TONE FREQUENCY | Sets the tone frequency of the fog horn                     | 400Hz         | 98   |
| LISTEN BACK              | Turns on or off of listen back function                     | ON            | 99   |
| STATION NAME             | Sets the names of the radio and external devices            | –             | 99   |
| SOFT KEY                 |   |               |      |
| KEY ASSIGNMENT           | Sets the assignment of the soft keys                        | –             | 100  |
| KEY TIMER                | Sets the display time of the soft keys                      | 10 sec        | 102  |
| RESET                    | Initializes the memories and settings                       | –             | 102  |

## 17 CHANNEL FUNCTION SETUP

### 17.1 CHANNEL GROUP

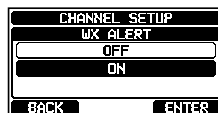
This menu item allows you to selection of a channel group from USA, Canada\*, and International. Refer to section “9.7 CHANNEL GROUP” for details.

### 17.2 WEATHER ALERT

Enables/disables the NOAA Weather Alert function. The default setting is “ON”.

1. Press & hold [  ] ➡ “CHANNEL SETUP” ➡ “WX ALERT”

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



### 17.3 SCAN MEMORY

To be able to scan channels the scan memory must be programmed. This section designates channels to be stored into scan memory.

Refer to section “9.10.2 Programming Scan Memory” for details.

### 17.4 SCAN TYPE

This selection is used to select the scan mode between “MEMORY” and “PRIORITY”. The default setting is “PRIORITY”.

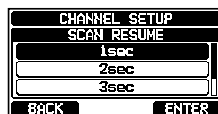
Refer to section “9.10.1 Selecting Scan Type” for details.

### 17.5 SCAN RESUME

This selection is used to set the time after a transmission ends before the radio starts to scan channels again. The default setting is 3 seconds.

1. Press & hold [  ] ➡ “CHANNEL SETUP” ➡ “SCAN RESUME”

2. Rotate the **DIAL/ENT** knob to select the desired resume time, default is 3 seconds. The resume time can be set to “1sec” through “5sec”.
3. Press the [ENTER] soft key to store the new setting.
4. Press the [CLEAR] key to return to radio operation.




### 17.6 MULTI WATCH

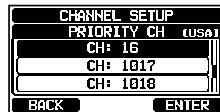
This selection is used to select the watch type between “DUAL” and “TRIPLE”. The default setting is “DUAL”.

Refer to section “9.9 MULTI WATCH (TO PRIORITY CHANNEL)” for details.

## 17.7 PRIORITY CHANNEL


This procedure permits setting a different priority channel to be used when priority scanning. By default, the priority channel is set to Channel 16.

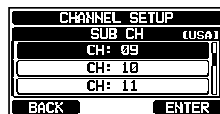
1. Press & hold [  ] ➡ “CHANNEL SETUP” ➡ “PRIORITY CHANNEL”
2. Rotate the **DIAL/ENT** knob to select the desired channel to be a priority.
3. Press the [ENTER] soft key to store the new setting.
4. Press the [CLEAR] key to return to radio operation.



## 17.8 SUB CHANNEL

By default, the sub channel is set to Channel 9. This procedure permits assigning a different sub channel for instant access.


1. Press & hold [  ] ➡ “CHANNEL SETUP” ➡ “SUB CHANNEL”
2. Rotate the **DIAL/ENT** knob to select the desired channel to be a sub channel.
3. Press the [ENTER] soft key to store the new setting.
4. Press the [CLEAR] key to return to radio operation.



## 17.9 CHANNEL NAME

When the radio (“Normal”) mode is selected, the display will show a name under the channel number. This name describes the use of the channel. The name may be customized with the below procedure.

**Example:** CH69 PLEASURE to HOOKUP

1. Press & hold [  ] ➡ “CHANNEL SETUP” ➡ “CHANNEL NAME”
2. Rotate the **DIAL/ENT** knob to select the channel to be named, then press the [SELECT] soft key.
3. Press the [◀] or [▶] key to select the first letter of the new channel name.
4. Press the [SELECT] soft key to store the first letter of the name and step to the next letter to the right.



5. Repeat step 3 and 4 until the name is complete. The name can consist of up to 16 characters, if you do not use all 16 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 is made entering the channel name, press the [◀] or [▶] key to select “←” or “→”, press the [SELECT] soft key until the incorrect character is selected, then perform steps 3 and 4.

6. When finished entering the channel name (using fifteen characters or less), press the [FINISH] soft key to save the name.
7. To enter the name of another channel, repeat the steps 2 through 6.
8. Press the [CLEAR] key to return to radio operation.



### NOTE

When “CHANNEL NAME” is assigned to a soft key, the channel name may be displayed directly by pressing the [NAME] soft key during radio operation.

## 17.10 RX LED DIMMER ADJUSTMENT

This menu selection adjusts the RX LED intensity.

1. Press & hold [MENU/SET] ➡ “CHANNEL SETUP” ➡ “RX LED DIMMER”

2. Rotate the **DIAL/ENT** knob to select the desired level (“7” is default). When “OFF” is selected, the lamp is turned OFF.
3. Press the [ENTER] soft key to store the selected level.
4. Press the [CLEAR] key to return to radio operation.

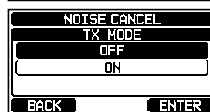
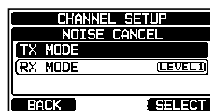


## 17.11 NOISE CANCELLATION

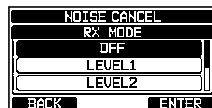
Enables/disables the Noise-canceling function of the transmitter and receiver independently.

1. Press & hold [MENU/SET] ➡ “CHANNEL SETUP” ➡ “NOISE CANCEL”

2. Rotate the **DIAL/ENT** knob to select “TX MODE”, then press the [SELECT] soft key.
3. Rotate the **DIAL/ENT** knob to select “ON” or “OFF”, then press the [ENTER] soft key.




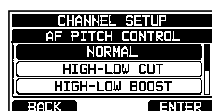
4. Rotate the **DIAL/ENT** knob to select “**RX MODE**”, then press the [**SELECT**] soft key.
5. Rotate the **DIAL/ENT** knob to select the noise level from “**LEVEL1**” through “**LEVEL4**” or “**OFF**”, then press the [**ENTER**] soft key.
6. Press the [**CLEAR**] key to return to radio operation.



## 17.12 AUDIO FILTER OPERATION

This menu item allows you to select operation of the internal audio filter for the best acoustics in noisy environments. The default setting is “**NORMAL**”.

1. Press & hold [  ] ➡ “**CHANNEL SETUP**” ➡ “**AF PITCH CONTROL**”
2. Rotate the **DIAL/ENT** knob to select the desired filter operation.
3. Press the [**ENTER**] soft key to store the new setting.
4. Press the [**CLEAR**] key to return to radio operation.



## 17.13 SCRAMBLER SETUP

The voice scrambler function may only be enabled by your dealer.

Configure the voice scrambler setting. Two types of voice scrambler functions are available: the 4-code type (**CVS2500A** compatible) and the 32-code type (**FVP-42** compatible for Furuno Electric FM-4721).

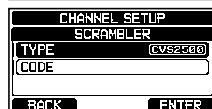
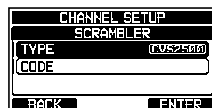
### NOTE

- The voice scrambler function is not available with the factory default settings. Please contact your dealer to activate the voice scrambler function.
- This function is not available for CH16 and CH70.

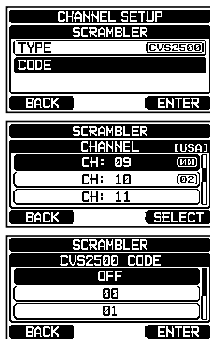
1. Press & hold [  ] ➡ “**CHANNEL SETUP**” ➡ “**SCRAMBLER**”

2. Rotate the **DIAL/ENT** knob to select “**TYPE**”, then press the [**SELECT**] soft key.
3. Rotate the **DIAL/ENT** knob to select “**CVS2500**” or “**FVP-42**”, then press the [**ENTER**] soft key.

**NOTE:** Changing this setting will delete all scrambler codes set for each channel.



4. Rotate the **DIAL/ENT** knob to select “**CODE**”, then press the [**SELECT**] soft key.
5. Rotate the **DIAL/ENT** knob to select the channel to be scrambled, then press the [**SELECT**] soft key.  
**NOTE:** CH16 and CH70 cannot be used.
6. Rotate the **DIAL/ENT** knob to select the scrambler code. The scrambler code can be set from “**00**” to “**03**” or “**OFF**” (While FVP-42 is selected in step 3, the scrambler code can be set from “**00**” to “**31**” or “**OFF**”). When “**OFF**” is selected the voice scrambler is disabled.
7. Press the [**ENTER**] soft key to store the selected code.
8. Repeat steps 5 through 7 to set other channels.
9. Press the [**CLEAR**] key to return to radio operation.



## 17.14 SUMMARY OF THE CANNEL FUNCTION SETUP

| Item             | Description   | Default Value                          | Page |
|------------------|---|--|------|
| CHANNEL GROUP    | Selects the channel group   | (Depending on the transceiver version) | 31   |
| WEATHER ALERT    | Turns the Weather Alert Function ON or OFF  | OFF                                    | 106  |
| SCAN MEMORY      | Add or remove a channel from Scan Memory  | –                                      | 34   |
| SCAN TYPE        | Select priority scan or memory scan   | PRIORITY                               | 34   |
| SCAN RESUME      | Sets the resume time of scanning  | 3 sec                                  | 106  |
| MULTI WATCH      | Selects Dual Watch or Triple Watch  | DUAL                                   | 33   |
| PRIORITY CHANNEL | Selects a priority channel  | CH16                                   | 107  |
| SUB CHANNEL      | Selects a Sub Channel   | CH09                                   | 107  |
| CHANNEL NAME     | Edit the name of memory channels  | –                                      | 107  |
| RX LED DIMMER    | Adjusts the RX LED dimmer level   | 7                                      | 108  |
| NOISE CANCEL     | Turns on or off of noise cancelling function (independently available for transmission and reception) | OFF                                    | 108  |
| AF PITCH CONTROL | Selects the audio filter operation  | NORMAL                                 | 109  |
| SCRAMBLER*       | Configures the secret communication settings  | TYPE: CVS2500<br>CORD: –               | 109  |

\*(The voice scrambler function is not available with the factory default settings. Please contact your dealer to activate the voice scrambler function.)

## 18 DSC SETUP

### 18.1 INDIVIDUAL DIRECTORY

The **GX2410** has a DSC directory that allows you to store a vessel or person's name, and the associated MMSI that you may wish to contact via individual calls, position requests and position report transmissions.

To transmit an individual call, program this directory with the information of the vessel you wish to contact, similar to a cellular phone's contact list.

Refer to section **"11.4.1 Setting up the Individual / Position Call Directory"** for details.

### 18.2 INDIVIDUAL REPLY

This menu item sets 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.

Refer to section **"11.4.2 Setting up the Individual Call Reply"** for details.

### 18.3 INDIVIDUAL ACKNOWLEDGMENT

The radio can be setup to transmit a reply automatically (default), or set so the radio will not reply to an individual DSC call.

Refer to section **"11.4.3 Enabling the Individual Call Acknowledgment"** for details.

### 18.4 INDIVIDUAL RINGER

The radio can be setup to ring like a telephone to alert you that the radio has received a DSC individual call. The default ring time setting is 2 minutes, however this can be changed to 5, 10 or 15 seconds with the procedure below.

Refer to section **"11.4.6 Setting up the Individual Call Ringer"** for details.

### 18.5 GROUP DIRECTORY

For this function to operate, the same group MMSI must be programmed into all the DSC VHF radios within the group of vessels that will be using this feature.

Refer to section **"11.5.1 Setting up a Group Call"** for details.

## 18.6 POSITION REPLY

The **GX2410** can be set up to automatically (default setting) or manually send your position when requested by another vessel. This selection is important if you are concerned about someone polling the position of your vessel that you may not want to. In the manual mode you will see the MMSI (Maritime Mobile Service Identity Number) or persons name, shown on the display allowing you to choose whether or not to send your position to the requesting vessel.

Refer to section “**11.6.1 Setting up a Position Request Reply**” for details.

## 18.7 AUTO POSITION POLLING

The **GX2410** has the capability to automatically poll and track seven vessels programmed into the individual directory.

Refer to section “**11.8 AUTO POSITION POLLING**” for details.

## 18.8 AUTO POSITION INTERVAL

The time interval between automatic position polling request transmissions may be selected.

Refer to section “**11.8.2 Setting up the Polling Time Interval**” for details.

## 18.9 AUTO CHANNEL CHANGE


When a DSC distress call, or an all ships (urgency or safety) call is received, the **GX2410** will automatically switch to Channel 16.

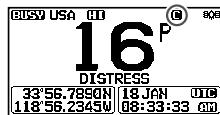
The automatic switch time may be changed. The default selection is 30 seconds.

1. Press & hold [  ] ➡ “DSC SETUP” ➡ “AUTO CHANNEL CHANGE”

2. Rotate the **DIAL/ENT** knob to select the desired time, then press the [ENTER] soft key.
3. Press the [CLEAR] key to return to radio operation.



When “**OFF**” is selected, the “” icon will light up on the screen.



## 18.10 NO ACTION TIMER

If no key is pressed during the “MENU” or “DSC CALL” screen, the transceiver will automatically return to radio operation.

The default selection is 10 minutes.

1. Press & hold [  ] ➡ “DSC SETUP” ➡ “NO ACTION TIMER”

2. Rotate the **DIAL/ENT** knob to select the desired time, then press the [ENTER] soft key.
3. Press the [CLEAR] key to return to radio operation.



## 18.11 WAIT TIME FOR POSITION FIX

This menu allows you to select the maximum wait time till obtaining position information when receiving a distress call, POS Report call, or acknowledgment to POS request call.

The default selection is OFF.

1. Press & hold [  ] ➡ “DSC SETUP” ➡ “POS UNFIX WAITING TIME”

2. Rotate the **DIAL/ENT** knob to select the desired time, then press the [ENTER] soft key.
3. Press the [CLEAR] key to return to radio operation.



## 18.12 DSC BEEP

This feature allows the alarm beeps to be turned ON or OFF when a DSC call is received. The DSC calls that can be customized are: individual, group, all ships, position request, position report, geographical, polling, and DSC test. Refer to section “11.5.4 Setting up the Group Call Ringer” for details.

## 18.13 WARNING ALARM

**NOTE:** This alarm may not be displayed on all transceiver versions.

The transceiver DSC warning alarm may be turned OFF.

By default, “NO MMSI” and “NO POSITION” are turned “ON”.

1. Press & hold [  ] ➡ “DSC SETUP” ➡ “WARNING ALARM”

2. Rotate the **DIAL/ENT** knob to select the item to be set, then press the [SELECT] soft key.
3. Rotate the **DIAL/ENT** knob to select “OFF” or “ON”.
4. Press the [ENTER] soft key to save the setting.
5. Press the [CLEAR] key to return to radio operation.



## 18.14 SUMMARY OF THE DSC SETUP MENU


| Item                   | Description   | Default Value   | Page |
|------------------------|---|---|------|
| INDIVIDUAL DIRECTORY   | Enter or edit addresses used for individual call  | –   | 52   |
| INDIVIDUAL REPLY       | Selects a reply to an individual call   | MANUAL  | 53   |
| INDIVIDUAL ACK.        | Selects the message to be sent automatically as an individual call acknowledgement  | ABLE  | 54   |
| INDIVIDUAL RING        | Selects the ringing time when an individual call or a position request is received  | 2 min   | 57   |
| GROUP DIRECTORY        | Enter or edit addresses used for group calling  | –   | 58   |
| POSITION REPLY         | Selects reply mode when receiving a position call   | AUTO  | 63   |
| AUTO POSITION POLLING  | Selects the AUTO POSITION POLLING operation type  | AUTO POS REPORT   | 70   |
| AUTO POS INTERVAL      | Selects the AUTO POSITION POLLING transmission interval   | 30 sec  | 70   |
| AUTO CHANNEL CHANGE    | Selects the delay time to automatically move to the requested channel after receiving a distress call, All Ship call, or group call               | 30 sec  | 112  |
| NO ACTION TIMER        | Selects the delay time before automatically returning to routine transceiver operation when no key is pressed                                     | 10 min  | 113  |
| POS UNFIX WAITING TIME | Sets the maximum wait time to obtain position information when receiving a distress call, POS Report call, or acknowledgement to POS request call | OFF   | 113  |
| DSC BEEP               | Turns the audible alarm ON or OFF when receiving a DSC call   | INDIVIDUAL CALL: ON<br>GROUP CALL: ON<br>ALL SHIPS: ON<br>POS REQUEST: OFF<br>POS REPORT: OFF<br>GEOGRAPHICAL: ON<br>DSC TEST CALL: OFF | 113  |
| WARNING ALARM          | Turns the DSC alarm ON or OFF   | NO MMSI: ON<br>NO POSITION: ON  | 113  |

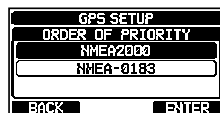
## 19 GPS SETUP

The “GPS Setup” mode allows the parameters for the NMEA2000 or the NMEA-0183 or the Internal GPS receiver to be customized for your operating requirements.

### 19.1 ORDER OF PRIORITY

Specify the order of priority of the input devices to be used for obtaining location information. The default setting is “NMEA2000”.

1. Press & hold [  ] ➡ “GPS SETUP” ➡ “ORDER OF PRIORITY”
2. Rotate the **DIAL/ENT** knob to select “NMEA2000” or “NMEA-0183”, then press the [ENTER] soft key to save the new setting.
3. Press the [CLEAR] key to return to radio operation.




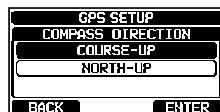
#### NOTE

The Internal GPS receiver is always set as the lowest priority.

### 19.2 COMPASS DIRECTION


This menu item selects the compass direction to be shown on the transceiver display. The default setting is “COURSE-UP”.

1. Press & hold [  ] ➡ “GPS SETUP” ➡ “COMPASS DIRECTION”
2. Rotate the **DIAL/ENT** knob to select the desired compass display to “COURSE-UP” or “NORTH-UP”.
3. Press the [ENTER] soft key to save the new setting.
4. Press the [CLEAR] key to return to radio operation.



### 19.3 LOCATION FORMAT

This menu item selects the coordinate system to be shown on the transceiver display. The default setting is “ddd°mm.mmmm”.

1. Press & hold [  ] ➡ “GPS SETUP” ➡ “LOCATION FORMAT”
2. Rotate the **DIAL/ENT** knob to select the desired coordinate system. The location format can be selected from “ddd°mm.mmmm” and “ddd°mm’ss”.
3. Press the [ENTER] soft key to save the new setting.
4. Press the [CLEAR] key to return to radio operation.



## 19.4 TIME OFFSET

Sets the local time offset between UTC (Universal Time Coordinated) and local time shown on the display. The offset is added or subtracted from the time received from the GPS.

Refer to section “8.8.1 Setting the GPS Time” for details.

## 19.5 TIME AREA

This menu selection sets the display to show UTC time or local time with the offset. Refer to section “8.8.2 Setting the Time Area” for details.

## 19.6 TIME FORMAT

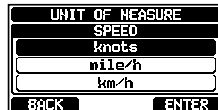
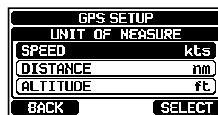
This menu selection sets the display to show time in 12-hour or 24-hour format. Refer to section “8.8.3 Setting the Time Format” for details.

## 19.7 UNITS OF MEASURE

This section sets the display units of speed, distance and altitude.

1. Press & hold [  ] ⇒ “GPS SETUP” ⇒ “UNIT OF MEASURE”

2. Rotate the **DIAL/ENT** knob to select the item to be set.
3. Press the [**SELECT**] soft key.
4. Rotate the **DIAL/ENT** knob to select the unit.
5. Press the [**ENTER**] soft key to store the new setting.
6. Press the [**CLEAR**] key to return to radio operation.



## 19.8 MAGNETIC VARIATION

This selection permits customization of the GPS COG (Course Over Ground) indication on the normal and compass pages, and BRG on the waypoint page. Refer to section “8.8.4 Setting COG to True or Magnetic” for details.

### NOTE

Setting to “ON” is effective only when the RMC sentences with magnetic data are input from external devices such as a GPS chart plotter.

## 19.9 NMEA 0183 IN/OUT

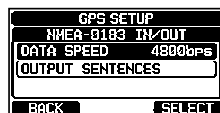
### 19.9.1 Data Speed

This menu is utilized to set the NMEA 0183 baud rate of the GPS input (Yellow and Green wires) and DSC output (White and Brown wires). The default setting is 4800 bps.

When 38400 bps is selected the DSC sentences (DSC & DSE) are output on the Blue and Gray wires after a DSC distress, position request is received.

1. Press & hold [  ] ➡ “GPS SETUP” ➡ “NMEA 0183 IN/OUT”

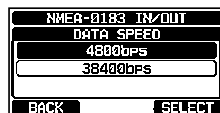
2. Rotate the **DIAL/ENT** knob to select “**DATA SPEED**”, then press the [SELECT] soft key.



3. Rotate the **DIAL/ENT** knob to select the desired speed from “**4800bps**” and “**38400bps**”.

4. Press the [ENTER] soft key to save the new setting.

5. Press the [CLEAR] key to return to radio operation.

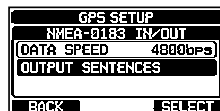


### 19.9.2 Output Sentences

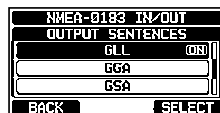
This selection is utilized to set the NMEA output sentences of the transceiver. By default, the “GLL” and the “RMC” sentences are turned “ON”.

1. Press & hold [  ] ➡ “GPS SETUP” ➡ “NMEA 0183 IN/OUT”

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



3. Rotate the **DIAL/ENT** knob to select the desired sentence type, then press the [SELECT] soft key.

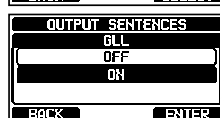


4. Rotate the **DIAL/ENT** knob to select “**ON**” or “**OFF**”.

5. Press the [ENTER] soft key to save the new setting.

6. Repeat steps 3 through 5 to set the other sentences.

7. Press the [CLEAR] key to return to radio operation.



## NOTE

- Data output will be performed according to the data acquisition priority order setting of “ORDER OF PRIORITY”. Refer to section “**19.1 ORDER OF PRIORITY**” for details.
- When “UNIT POWER” of “OPTION GPS UNIT” is set to OFF, NMEA sentences will not be output. (OPTION GPS reception data will be output as is.)
- The output interval of each NMEA sentence depends on the output timing on the input device. However, sentences which include POS data will be output at intervals of two seconds or less.
- When all sentences are set to be output, depending on the baud rate, not all sentences can be output at intervals of one second or less. GSA and GSV sentences will be output at intervals of around five seconds.

## 19.10 INTERNAL GPS UNIT

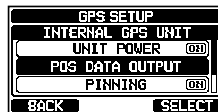
Change the internal GPS receiver settings. (The settings in this section are also valid when connecting the **SCU-38** External GPS Antenna to the internal GPS receiver.)

### 19.10.1 Position Data Output

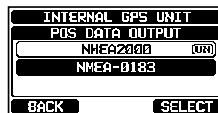
Select the connection device to be used when outputting position data.

1. Press & hold [  ] ➡ “GPS SETUP” ➡ “INTERNAL GPS UNIT”

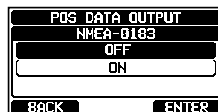
2. Rotate the **DIAL/ENT** knob to select “**POS DATA OUTPUT**”, then press the [SELECT] soft key.



3. Rotate the **DIAL/ENT** knob to select “**NMEA 2000**” or “**NMEA 0183**”, then press the [SELECT] soft key.



4. Rotate the **DIAL/ENT** knob to select “**OFF**” or “**ON**”.
5. Press the [ENTER] soft key to store the new setting.
6. Press the [CLEAR] key to return to radio operation.

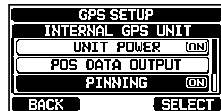


## 19.10.2 Pinning

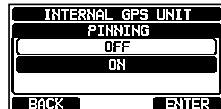
This selection is utilized to enable or disable position updates when the vessel is not underway. The default setting is “ON”.

1. Press & hold [  ] ➡ “GPS SETUP” ➡ “INTERNAL GPS UNIT”

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



3. Rotate the **DIAL/ENT** knob to select “OFF” or “ON”.  
ON: When pinning is turned ON, the transceiver will not update its position unless the ship’s speed is over 0.4 knot.



OFF: When the vessel is underway or stopped, the transceiver continuously updates its position.

This improves accuracy of the position fix.

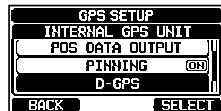
4. Press the [ENTER] soft key to save the new setting.
5. Press the [CLEAR] key to return to routine transceiver operation.

## 19.10.3 Differential GPS

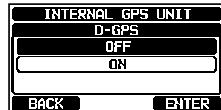
This selection enables or disables differential GPS function by SBAS (Satellite Based Augmentation System) such as WAAS, EGNOS, MSAS and GAGAN. In some areas (Australia for example), the GPS reception can have problems enabling the SBAS. The default setting is “ON”.

1. Press & hold [  ] ➡ “GPS SETUP” ➡ “INTERNAL GPS UNIT”

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



3. Rotate the **DIAL/ENT** knob to select “OFF” or “ON”.
4. Press the [ENTER] soft key to store the new setting.
5. Press the [CLEAR] key to return to radio operation.



## 19.10.4 Logger Interval

1. Press & hold [  ] ➡ “GPS SETUP” ➡ “INTERNAL GPS UNIT”

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



3. Rotate the **DIAL/ENT** knob to select the desired time and press the [ENTER] soft key.

**NOTE:** Log time for each logger interval setting

15 sec: Aprox. 25 hours

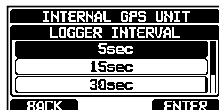
30 sec: Aprox. 50 hours

1 min: Aprox. 100 hours

2 min: Aprox. 200 hours

5 min: Aprox. 500 hours

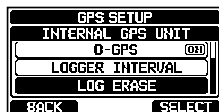
4. Press the [CLEAR] key to return to radio operation.



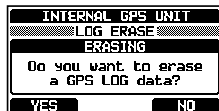
## 19.10.5 Log Erase

1. Press & hold [  ] ➡ “GPS SETUP” ➡ “INTERNAL GPS UNIT”

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



3. Press the [YES] soft key. (To cancel, press the [NO] soft key.)



4. Press the [OK] soft key.

5. Press the [CLEAR] key to return to radio operation.



## 19.11 SUMMARY OF THE GPS SETUP

| Item               | Description   | Default Value   | Page |
|--------------------|---|---|------|
| ORDER OF PRIORITY  | Sets the priority order of the connection devices when obtaining position information                                       | NMEA-2000   | 115  |
| COMPASS DIRECTION  | Selects the compass direction to be displayed   | COURSE-UP   | 115  |
| LOCATION FORMAT    | Selects the coordinate system to be displayed   | ddd°mm.mmmm   | 115  |
| TIME OFFSET        | Sets the offset time from UTC (available only when "LOCAL" is selected in the item "TIME AREA")                             | 00:00   | 116  |
| TIME AREA          | Selects the time location to be displayed, from UTC or local  | UTC   | 116  |
| TIME FORMAT        | Selects the time format to be displayed, 12-hour or 24-hour (fixed to "24H" when "UTC" is selected in the item "TIME AREA") | 24hour  | 116  |
| UNITS OF MEASURE   | Selects the unit of measure when displaying speed, distance, and altitude   | SPEED: kts (knots)<br>DISTANCE: nm (nautical mile)<br>ALTITUDE: ft (feet) | 116  |
| MAGNETIC VARIATION | Enables/disables the magnetic variation function  | OFF   | 116  |
| NMEA 0183 IN/OUT   |   |   |      |
| DATA SPEED         | Sets the NMEA 0183 data speed   | 4800bps   | 117  |
| OUTPUT SENTENCES   | Enables/disables NMEA sentences   | GLL: OFF<br>GGA: OFF<br>GSA: OFF<br>GSV: OFF<br>RMC: OFF<br>DSC/DSE: OFF  | 117  |
| INTERNAL GPS UNIT  |   |   |      |
| POS DATA OUTPUT    | Selects the connection device when outputting position data   | NMEA 2000: OFF<br>NMEA-0183: OFF  | 118  |
| PINNING            | Turns on or off GPS position updates for vessel not underway  | ON  | 119  |
| D-GPS              | Turns SBAS ON or OFF  | ON  | 119  |
| LOGGER INTERVAL    | Selects the interval time of logging  | 2 min   | 120  |
| LOG ERASE          | Erases the log data   | –   | 120  |

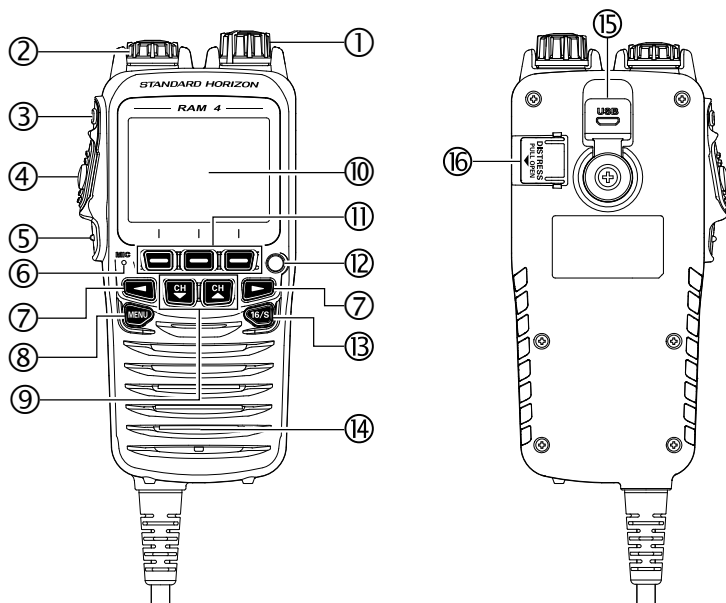
## 20 SSM-70H (RAM4) REMOTE MIC OPERATION

### NOTE

To connect the GX2410, the SSM-70H firmware must be Ver. 3.00.00 or later.

When a remote microphone is connected to the **GX2410**, all VHF, DSC, setup menus, AIS, Navigation, GM (Group Monitor) functions and PA/Fog modes can be remotely operated. The **SSM-70H** operation is the same as the **GX2410** except for the receiver audio volume setting and the squelch level setting. The reason for combined controlling is to make the operation of the radio and **SSM-70H** Remote Microphone uncomplicated. For specific operations of the **SSM-70H** Remote Microphone, review sections in the transceiver operating manual. The **SSM-70H** is supplied with 7 meters of routing cable and can be extended up to 21 meters using three 7-meter extension cables model **CT-100**. The Intercom feature can be used between the **SSM-70H** and the **GX2410**. In addition, speaker wires are supplied at the panel mount of the routing cable for external speakers to be connected for use in noisy environments.

### 20.1 REMOTE MIC CONTROLS



#### ① Power/VOL knob

Press and hold this knob to turn the transceiver and the remote mic ON or OFF.

Rotate this knob to adjust the internal speaker volume.

② **DIAL/ENT knob**

While the normal screen is displayed, rotate the **DIAL/ENT** knob to select your desired channel. While the MENU screen is displayed, rotate the knob to select the desired menu item.

**SECONDARY USE**

Press this knob to enter a selection in the MENU.

③ **SQL key** (Squelch control)

Press this key to activate the squelch adjusting mode. Press the **CH▲** or **CH▼** key to adjust the squelch threshold level.

④ **PTT** (Push-To-Talk) **switch**

Push this switch to enable the transmitter.

⑤ **CLEAR/  key**

Press this key to cancel a menu selection. Press and hold this key to activate the key lock function. Press and hold this key again to deactivate the key lock function.

⑥ **Microphone**

The internal microphone transmits your voice while reducing background noise using Clear Voice Noise Reduction Technology.

**NOTE:** Position the microphone about 1.5cm away from your mouth and speak in a normal voice.

⑦ **◀ & ▶ keys**

When the soft keys are displayed, press these keys to switch the function of the soft keys.

**SECONDARY USE**

While the MENU screen is displayed, press the keys to slide the on-screen menu to the right/left side.

⑧ **MENU key**

Press to access the MENU.

Press and hold this key to access the SETUP MENU.

⑨ **CH▼ & CH▲ keys**

These keys are used to change the operating channel.

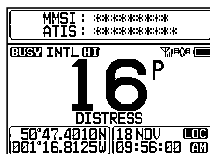
Press the key momentarily, the channel increases or decreases one step. Hold the key and the channel increases or decreases continuously.

**SECONDARY USE**

- While the MENU screen is displayed, press the key to slide the on-screen menu upward/downward.
- When in the PA or Fog mode, press the key to change the channel.

⑩ **Display**

Full dot matrix display, 222 by 162 pixels.



← MMSI and ATIS Display Area

← Channel and Operation status Display area

### ⑪ Soft keys

These three programmable keys can be customized utilizing the setup menu. Press one of these keys, to display the key functions at the bottom of the display. Refer to section “**20.2 RAM4 SOFT KEY ASSIGNMENT**” for details.

### ⑫ Strobe Light

When the [STROBE] soft key is pressed, the internationally recognized Morse Code “S.O.S” message will light and flash repeatedly.

From MENU → SETUP → CONFIGURATION → STROBE LED, the strobe light may be set to one option from: “CONTINUOUS”, “SOS”, “BLINK 1”, “BLINK 2” or “BLINK 3”.

### ⑬ 16/S key

Pressing this key immediately reverts to channel 16 from any channel location. Holding down this key recalls the SUB channel (The default setting is channel 9). Press this key again to revert to the previously selected working channel.

### ⑭ Speaker

The internal speaker is located here.

### ⑮ DATA jack

Use the micro USB type B jack for **SSM-70H (RAM4)** firmware updates.






**NOTE:** When the DATA jack is securely covered with the rubber cap, the SSM-70H meets the waterproof performance.
















### ⑯ DISTRESS key

This key is used to send a DSC distress call. Refer to section “**11 DIGITAL SELECTIVE CALLING (DSC)**”.

## 20.2 RAM4 SOFT KEY ASSIGNMENT

From this menu, desired functions may be assigned to each **RAM4** soft key from numbers 01 to 12. Also, the duration the soft key icon will be displayed after the corresponding soft key is pressed may be set. The keys may be setup to control the following functions:

| DISPLAY       | SOFT KEY ICON   | FUNCTION   |
|---------------|---|--|
| NONE          | —   | —  |
| TX HI/LO      |  | Selects transmit power                           |
| WX/CH         |  | Switches channels between weather and marine     |
| SCAN          |  | Turns the scanning function ON or OFF            |
| MULTI WATCH   |  | Starts and stops dual watch or triple watch scan |
| MARK POSITION |  | Marks the current position for a “Waypoint”      |

| DISPLAY        | SOFT KEY ICON  | FUNCTION   |
|----------------|--|--|
| SCAN MEMORY    |   | Add or remove channels from memory channel scan  |
| PRESET         |   | Programs or deletes the preset memory channel  |
| MAN OVERBOARD  |   | Marks the position where a person falls overboard  |
| NOISE CANCEL   |   | Enables the noise canceling settings display   |
| CH NAME        |   | Edit channel names   |
| STROBE         |   | Turns on or off the strobe LED.  |
| SCRAMBLER      |   | Configures the secret communication settings.  |
| COMPASS        |   | Enables the "Compass" display  |
| NAVIGATION     |   | Enables the "Waypoint" or "Route" navigation display   |
| FOG HORN       |   | Select FOG HORN mode   |
| INTERCOM       |   | Activates intercom between radio and RAM4 microphone (optional SSM-70H (RAM4) or SSM-72H (RAM4X) required) |
| GPS LOGGER     |   | Starts and stops logging position data   |
| AIS DISPLAY    |   | Shows the "AIS" display  |
| HORN BUTTON    |   | Activates the Fog Horn function  |
| PUBLIC ADDRESS |   | Switches channels between weather and marine   |
| RX SENSE       |   | Toggles between LOCAL and DISTANCE   |
| DISPLAY MODE   |  | Switches the display between daytime and nighttime mode  |

## NOTE

Soft key functions may be assigned individually for the transceiver and the optional **SSM-70H (RAM4)** remote microphone.


### 20.2.1 Key Assignment

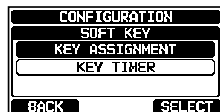
Customize the functions of **SSM-70H (RAM4)** remote microphone soft keys for personal preferences.

**NOTE:** It is necessary to make the settings using the keys or the **DIAL/ENT** knob on the **SSM-70H (RAM4)**.

1.

Press & hold [  ] ➡ **"CONFIGURATION"** ➡ **"SOFT KEY"**  
(RAM4)

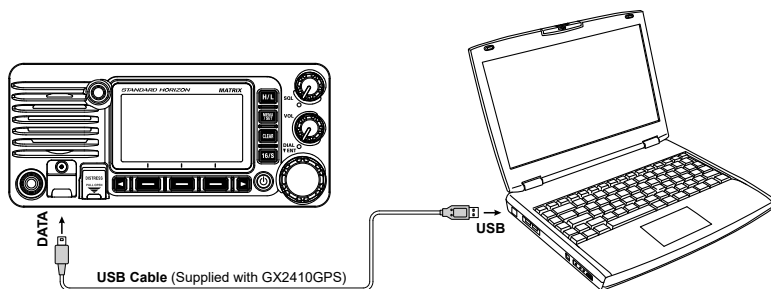
2. Rotate the **DIAL/ENT** knob to select “**KEY ASSIGNMENT**”, then press the [**SELECT**] soft key.
3. Rotate the **DIAL/ENT** knob to select the key number to be programmed, and press the [**SELECT**] soft key.
4. Rotate the **DIAL/ENT** knob to select a new function from the choices listed, and then press the [**ENTER**] soft key. When “**NONE**” is selected, the soft key assignment is removed.
5. Repeat steps 3 and 4 to program other soft keys.  
The VHF radio's functions can be assigned to the maximum of 12 soft keys.
6. Press the [**CLEAR/** ] key to return to radio operation.



## 21 CONNECTING A USB DATA TERMINAL TO THE PC

The **GX2410** settings can be programmed using the USB terminal and PC Programming Software. You can also download the log data from the radio by using the PC Programming Software which may be downloaded from the Standard Horizon website. The PC Programming Software is compatible with Windows®.

To connect a PC, use the supplied USB cable through the **DATA** jack of the **GX2410**.



### CAUTION

The **DATA** jack is NOT designed to be waterproof when the cover is opened. Connect the radio and PC in a dry location.

If you have further questions, please feel free to contact Product Support at:  
 Phone: (800) 767-2450  
 Email: [marinetech@yaesu.com](mailto:marinetech@yaesu.com)

## 22 MAINTENANCE

The inherent quality of the solid-state components used in this transceiver will provide many years of continuous use. Taking the following precautions will prevent damage to the transceiver.

- Never key the microphone unless an antenna or suitable dummy load is connected to the transceiver.
- Ensure that the supply voltage to the transceiver does not exceed 16 VDC or fall below 11 VDC.
- Use only STANDARD HORIZON approved accessories and replacement parts.

### 22.1 REPLACEMENT PARTS

Occasionally an owner needs a replacement mounting bracket or knob. These can be ordered from your Dealer.

Commonly requested parts, and their part numbers are listed below.

- **DC Power Cord:** T9025406
- **VOL Knob:** RA627430A
- **SQL Knob:** RA6283700
- **DIAL/ENT Knob:** RA6271400
- **Mounting Bracket:** RA078400C
- **Mounting Bracket Knob:** RA0978600
- **Microphone Hanger:** RA0458800
- **SSM-70H (RAM4 Microphone) Routing Cable Assembly:** S8101512
- **USB Cable:** T9101648

### 22.2 FACTORY SERVICE

In the unlikely event that the transceiver fails to perform or needs servicing, please contact one of following:

#### **In USA and Canada**

**Standard Horizon**

**Attention Marine Repair Department**


6125 Phyllis Drive, Cypress, California 90630, U.S.A.

Telephone (800) 366-4566

#### **In Other Countries**

Contact the dealer or the distributor.

## 22.3 TROUBLESHOOTING CHART

| SYMPTOM  | PROBABLE CAUSE                                   | REMEDY  |
|--|--|---|
| Transceiver fails to power up.   | No DC voltage to the transceiver, or blown fuse. | a. Check the 12 VDC battery connections and the fuse.<br>b. The  key needs to be pressed and held to turn the radio on.  |
| Transceiver blows fuse when connected to power supply.                               | Reversed power wires.                            | Check the power cable for DC voltage, or replace the fuse (6A). Make sure the red wire is connected to the positive (+) battery post, and the black wire is connected to the negative (–) battery post. If the fuse still blows, contact your Dealer. |
| Popping or whining noise from the speaker while engine runs.                         | Engine noise.                                    | Re-route the DC power cables away from the engine. Add noise suppressor on power cable. Change to resistive spark plug wires and/or add an alternator whine filter.   |
| Sound is not emitted from the internal or external speaker.                          | Accessory cable.                                 | Check the connections of the accessory cable. External speaker cable (WHITE/SHIELD) may be shorted together.  |
| Receiving station reports low transmit power, even with transceiver set to HI power. | Antenna.   | Have the antenna checked or test the transceiver with another antenna. If the problem persists, contact your Dealer for servicing.  |
| “HI BATTERY” or “LO BATTERY” message appears when the power is turned on.            | The power supply voltage is too high or too low. | Confirm that the connected power supply voltage is between 11 volts and 16.5 volts DC.  |
| Your position is not displayed.  | Accessory cable.                                 | Check the accessory cable connection. Some GPS use the battery ground for NMEA connection.  |
|  | <b>SCU-38</b> cable.                             | Check the <b>SCU-38</b> cable connection.   |
|  | Setting of the GPS chart plotter.                | Check the output signal format of the GPS navigation receiver. This radio requires NMEA 0183 and NMEA 2000 format with GLL, RMB, or RMC sentence as an output signal. If the GPS has a baud rate setting make sure to select 4800 and parity to NONE. |

## 23 CHANNEL ASSIGNMENTS

### 23.1 GX2410GPS

| VHF MARINE CHANNEL CHART |          |          |   |          |                |         |   |
|--------------------------|----------|----------|---|----------|----------------|---------|---|
| CH                       | U        | C        | I | S/D      | TX             | RX      | CHANNEL USE   |
| 01                       |          | X        | X | D        | 156.050        | 160.650 | Public Correspondence (Marine Operator)                                   |
| 1001                     | X        |          |   | S        | 156.050        |         | Port Operation and Commercial.<br>VTS in selected areas                   |
| 02                       |          | X        | X | D        | 156.100        | 160.700 | Public Correspondence (Marine Operator)                                   |
| 03                       |          | X        | X | D        | 156.150        | 160.750 | Public Correspondence (Marine Operator)                                   |
| <b>1003</b>              | <b>X</b> |          |   | <b>S</b> | <b>156.150</b> |         | <b>U.S. Government Only, Coast Guard</b>                                  |
| 04                       |          |          | X | D        | 156.200        | 160.800 | Public Correspondence (Marine Operator),<br>Port operation, ship movement |
| 1004                     |          | X        |   | S        | 156.200        |         | Pacific coast: Coast Guard, East Coast:<br>Commercial fishing             |
| 05                       |          |          | X | D        | 156.250        | 160.850 | Public Correspondence (Marine Operator),<br>Port operation, ship movement |
| 1005                     | X        | X        |   | S        | 156.250        |         | Port operation. VTS in Seattle  |
| 06                       | X        | X        | X | S        | 156.300        |         | Inter-ship Safety   |
| 07                       |          |          | X | D        | 156.350        | 160.950 | Public Correspondence (Marine Operator),<br>Port operation, ship movement |
| 1007                     | X        | X        |   | S        | 156.350        |         | Commercial  |
| 08                       | X        | X        | X | S        | 156.400        |         | Commercial (Inter-ship only)  |
| 09                       | X        | X        | X | S        | 156.450        |         | Boater Calling channel, Commercial &<br>Non-commercial (Recreational)     |
| 10                       | X        | X        | X | S        | 156.500        |         | Commercial  |
| 11                       | X        | X        | X | S        | 156.550        |         | Commercial. VTS in selected areas.  |
| 12                       | X        | X        | X | S        | 156.600        |         | Port operation. VTS in selected areas.                                    |
| 13                       | X        | X        | X | S        | 156.650        |         | Inter-ship Navigation Safety (Bridge-to-bridge)                           |
| 14                       | X        | X        | X | S        | 156.700        |         | Port operation. VTS in selected areas.                                    |
| 15                       | X        |          |   |          | –              | 156.750 | Environmental (Receive only)  |
| 15                       |          | X        | X | S        | 156.750        |         | Commercial, non-commercial, ship<br>movement (1W)                         |
| 16                       | X        | X        | X | S        | 156.800        |         | International Distress, Safety and Calling                                |
| 17                       | X        | X        | X | S        | 156.850        |         | State Controlled (1W)   |
| 18                       |          |          | X | D        | 156.900        | 161.500 | Port operation, ship movement   |
| 1018                     | X        | X        |   | S        | 156.900        |         | Commercial  |
| 19                       |          |          | X | D        | 156.950        | 161.550 | Port operation, ship movement   |
| 1019                     | X        | X        |   | S        | 156.950        |         | Commercial (USA)<br>Coast Guard (Canada)                                  |
| 1019                     |          |          | X | S        | 156.950        |         |   |
| 2019                     |          |          | X |          | –              | 161.550 |   |
| 20                       | X        | X        | X | D        | 157.000        | 161.600 | Canadian Coast Guard Only,<br>International: port operations and shipment |
| 1020                     |          | X        | X | S        | 157.000        |         |   |
| 1020                     | X        |          |   | S        | 157.000        |         | Port operation  |
| 2020                     |          | X        | X |          | –              | 161.600 |   |
| 21                       |          |          | X | D        | 157.050        | 161.650 | Port operation, ship movement   |
| <b>1021</b>              | <b>X</b> | <b>X</b> |   | <b>S</b> | <b>157.050</b> |         | <b>U.S. Government Only (USA)<br/>Canadian Coast Guard (Canada)</b>       |

| VHF MARINE CHANNEL CHART |          |          |   |          |                |         |   |
|--------------------------|----------|----------|---|----------|----------------|---------|---|
| CH                       | U        | C        | I | S/D      | TX             | RX      | CHANNEL USE   |
| 2021                     |          | X        |   |          | —              | 161.650 | CMB Service   |
| 22                       |          |          | X | D        | 157.100        | 161.700 | Port operation, ship movement   |
| 1022                     | X        | X        |   | S        | 157.100        |         | US Coast Guard Liaison and Maritime Safety Information Broadcasts announced on channel 16 (USA)<br>Canadian Coast Guard Liaison and Maritime Safety Information Broadcasts announced on channel 16 (Canada) |
| 23                       |          | X        | X | D        | 157.150        | 161.750 | Public Correspondence (Marine Operator)   |
| <b>1023</b>              | <b>X</b> |          |   | <b>S</b> | <b>157.150</b> |         | <b>U.S. Government Only</b>   |
| 2023                     |          | X        |   |          | —              | 161.750 | CMB Service   |
| 24                       | X        | X        |   | D        | 157.200        | 161.800 | Public Correspondence (Marine Operator)   |
| 25                       | X        | X        |   | D        | 157.250        | 161.850 | Public Correspondence (Marine Operator)   |
| 2025                     |          | X        |   |          | — — —          | 161.850 | CMB Service   |
| 26                       | X        | X        |   | D        | 157.300        | 161.900 | Public Correspondence (Marine Operator)   |
| 27                       | X        | X        |   | D        | 157.350        | 161.950 | Public Correspondence (Marine Operator)   |
| 1027                     | X        | X        | X | S        | 157.350        |         | Port Operations   |
| 28                       | X        | X        |   | D        | 157.400        | 162.000 | Public Correspondence (Marine Operator)   |
| 1028                     | X        | X        | X | S        | 157.400        |         | Port Operations   |
| 2028                     |          | X        |   |          | —              | 162.000 | CMB Service   |
| 60                       |          | X        | X | D        | 156.025        | 160.625 | Public Correspondence (Marine Operator)   |
| 61                       |          |          | X | D        | 156.075        | 160.675 | Public Correspondence (Marine Operator),<br>Port operation, ship movement   |
| <b>1061</b>              | <b>X</b> | <b>X</b> |   | <b>S</b> | <b>156.075</b> |         | <b>Public Coast: Coast Guard;<br/>East Coast: commercial fishing only</b>   |
| 62                       |          |          | X | D        | 156.125        | 160.725 | Public Correspondence (Marine Operator),<br>Port operation, ship movement   |
| 1062                     |          | X        |   | S        | 156.125        |         | Public Coast: Coast Guard;<br>East Coast: commercial fishing only   |
| 63                       |          |          | X | D        | 156.175        | 160.775 | Public Correspondence (Marine Operator),<br>Port operation, ship movement   |
| 1063                     | X        | X        |   | S        | 156.175        |         | Port Operation and Commercial.<br>VTS in selected areas.  |
| 64                       |          | X        | X | D        | 156.225        | 160.825 | Public Correspondence (Marine Operator),<br>Port operation, ship movement   |
| <b>1064</b>              | <b>X</b> | <b>X</b> |   | <b>S</b> | <b>156.225</b> |         | <b>Public Correspondence (Marine Operator),<br/>Port operation, ship movement</b>   |
| 65                       |          |          | X | D        | 156.275        | 160.875 | Public Correspondence (Marine Operator),<br>Port operation, ship movement   |
| 1065                     | X        | X        |   | S        | 156.275        |         | Port Operations   |
| 66                       |          |          | X | D        | 156.325        | 160.925 | Public Correspondence (Marine Operator),<br>Port operation, ship movement   |
| 1066                     | X        | X        |   | S        | 156.325        |         | Port Operations   |
| 67                       | X        | X        | X | S        | 156.375        |         | US: Commercial. Used for Bridge-to-bridge<br>communications in lower Mississippi River.<br>Inter-ship only.<br>Canada: Commercial fishing, S&R  |
| 68                       | X        | X        | X | S        | 156.425        |         | Non-commercial (Recreational)   |
| 69                       | X        | X        | X | S        | 156.475        |         | US: Non-commercial (Recreational),<br>Canada: Commercial fishing only,<br>International: Inter-ship, Port operations and<br>Ship movement   |

| VHF MARINE CHANNEL CHART |   |   |   |     |         |         |  |
|--------------------------|---|---|---|-----|---------|---------|--|
| CH                       | U | C | I | S/D | TX RX   |         | CHANNEL USE  |
| 70                       | X | X | X |     | –       | 156.525 | Digital selective calling (voice communications not allowed)   |
| 71                       | X | X | X | S   | 156.575 |         | US, Canada: Non-commercial (Recreational),<br>International: Port operations and Ship movement                           |
| 72                       | X | X | X | S   | 156.625 |         | Non-commercial (Inter-ship only)   |
| 73                       | X | X | X | S   | 156.675 |         | US: Port Operations,<br>Canada: Commercial fishing only,<br>International: Inter-ship, Port operations and Ship movement |
| 74                       | X | X | X | S   | 156.725 |         | US: Port Operations,<br>Canada: Commercial fishing only,<br>International: Inter-ship, Port operations and Ship movement |
| 75                       | X | X | X | S   | 156.775 |         | Port Operations (Inter-ship only) (1W)   |
| 76                       | X | X | X | S   | 156.825 |         | Port Operations (Inter-ship only) (1W)   |
| 77                       | X | X |   | S   | 156.875 |         | Port Operations (Inter-ship only) (1W)   |
| 77                       |   |   | X | S   | 156.875 |         | Port Operations (Inter-ship only)  |
| 78                       |   |   | X | D   | 156.925 | 161.525 | Public Correspondence (Marine Operator),<br>Port operation, ship-movement  |
| 1078                     | X | X | X | S   | 156.925 |         | US/Canada: Non-commercial (Recreational)<br>International: Port operations and Ship movement                             |
| 2078                     |   |   | X |     | –       | 161.525 |  |
| 79                       |   |   | X | D   | 156.975 | 161.575 | Port operation and Ship movement   |
| 1079                     | X | X | X | S   | 156.975 |         | US/Canada: Commercial<br>International: Port operations and Ship movement  |
| 2079                     |   |   | X |     | –       | 161.575 |  |
| 80                       |   |   | X | D   | 157.025 | 161.625 | Port operation, ship movement  |
| 1080                     | X | X |   | S   | 157.025 |         | Commercial   |
| 81                       |   |   | X | D   | 157.075 | 161.675 | Port operation, ship movement  |
| 1081                     | X | X |   | S   | 157.075 |         | <b>U.S. Government Only - Environmental protection operations. (USA)<br/>Canadian Coast Guard Only (Canada)</b>          |
| 82                       |   |   | X | D   | 157.125 | 161.725 | Public Correspondence (Marine Operator),<br>Port operation, ship movement  |
| 1082                     | X | X |   | S   | 157.125 |         | <b>U.S. Government Only (USA)<br/>Canadian Coast Guard Only (Canada)</b>   |
| 83                       |   |   | X | D   | 157.175 | 161.775 | Public Correspondence (Marine Operator)  |
| 1083                     | X | X |   | S   | 157.175 |         | <b>U.S. Government Only (USA)<br/>Canadian Coast Guard Only (Canada)</b>   |
| 2083                     |   | X |   |     | –       | 161.775 | CMB Service  |
| 84                       | X | X |   | D   | 157.225 | 161.825 | Public Correspondence (Marine Operator)  |
| 85                       | X | X |   | D   | 157.275 | 161.875 | Public Correspondence (Marine Operator)  |
| 86                       | X | X |   | D   | 157.325 | 161.925 | Public Correspondence (Marine Operator)  |
| 87                       | X | X | X | S   | 157.375 |         | Port operation, ship movement  |
| 88                       | X | X | X | S   | 157.425 |         | Port operation, ship movement<br>Commercial, Inter-ship Only   |

**NOTE:** Simplex channels, 1003, 1021, 1023, 1061, 1064, 1081, 1082 and 1083 CANNOT be lawfully used by the general public in U.S.A. waters.

## 24 SPECIFICATIONS

Performance specifications are nominal, unless otherwise indicated, and are subject to change without notice. Measured in accordance with TIA/EIA-603.

### ● GENERAL

|   |  |
|---|--|
| Channels .....                          | All International, USA and Canadian*<br>*(Depending on the region setting) |
| Normal Input Voltage .....              | 13.8V DC   |
| Operating Voltage Range .....           | 11V to 16.5V   |
| Current Drain                           |  |
| Standby .....                           | 0.55A  |
| Receiver (at Maximum AF Output) .....   | 0.9A   |
| Transmit .....                          | 5.0A (Hi), 1.0A (Lo)   |
| NMEA 2000 Load Equivalency Number ..... | LEN=1  |
| DSC Transmitted Call Log .....          | 100  |
| DSC Distress Call Log .....             | 50   |
| DSC Received Call Log .....             | 100  |
| Individual Directory .....              | 100  |
| Group Directory .....                   | 30   |
| Waypoint Directory .....                | 250  |
| Route Directory .....                   | 30   |
| Display Type .....                      | 2.6" x 1.4" (66 x 36mm)<br>Full Dot Matrix (222 x 122 pixels)              |
| Dimensions (W x H x D) .....            | 7.1" x 3.1" x 6.0" (180 x 80 x 152.6mm)                                    |
| Flush-Mount Dimensions (W x H x D) .... | 6.3" x 2.6" x 6.2" (161 x 65 x 157mm)                                      |
| Weight .....                            | 3.3 lbs (1.5kg)  |

### ● TRANSMITTER

|                                    |   |
|------------------------------------|---|
| Frequency Range .....              | 156.025MHz to 157.425MHz (INTERNATIONAL)  |
| RF Output Power .....              | 25W (Hi), 1W (Lo)   |
| Conducted Spurious Emissions ..... | Less than -80dBc (Hi), -66dBc (Lo)  |
| Audio Response .....               | within +1/-3dB of a 6dB/Octave<br>pre-emphasis characteristic at 300 to 3000 Hz |
| Audio Distortion .....             | Less than 5 %   |
| Modulation .....                   | 16K0G3E (for Voice), 16K0G2B (for DSC)  |
| Frequency Stability .....          | ±0.0003 % (-4°F to +140°F [-20°C to +60°C])                                     |
| FM Hum and Noise .....             | 50dB  |

## ●RECEIVER (for Voice and DSC)

|                                       |   |
|---------------------------------------|---|
| Frequency Range .....                 | 156.050MHz - 163.275MHz   |
| Sensitivity                           |   |
| 20dB Quieting .....                   | 0.35μV  |
| 12dB SINAD .....                      | 0.30μV  |
| Squelch Sensitivity (Threshold) ..... | 0.13μV  |
| Modulation Acceptance Bandwidth ..... | ±7.5kHz   |
| Selectivity (Typical)                 |   |
| Spurious and Image Rejection .....    | 80dB for Voice (75dB for DSC)   |
| Intermodulation and Rejection .....   | 75dB for Voice (75dB for DSC)   |
| Audio Output .....                    | 4.5 W (at 4 ohms external speaker output)                                     |
| Audio Response .....                  | within +1/−3dB of a 6dB/Octave<br>de-emphasis characteristic at 300 to 3000Hz |
| Frequency Stability .....             | ±0.0003 % (−4°F to +140°F [−20°C to +60°C])                                   |
| Channel Spacing .....                 | 25kHz   |
| DSC Format .....                      | ITU-R M.493-16  |
| Attenuator (Local) .....              | Approx. 10dB  |

## ●RECEIVER (for AIS)

|                                     |                                      |
|-------------------------------------|--------------------------------------|
| Frequency .....                     | 161.975MHz (CH A), 162.025MHz (CH B) |
| Sensitivity .....                   | 0.5μV (at 12dB SINAD)                |
| Selectivity(Typical)                |                                      |
| Spurious and Image Rejection .....  | 70dB                                 |
| Intermodulation and Rejection ..... | 70dB                                 |

## ●INTERNAL GPS RECEIVER

|                         |   |
|-------------------------|---|
| Receiver Channels ..... | 66 Channels   |
| Sensitivity .....       | Less than −147dBm   |
| Time to First Fix ..... | 1 minute typical (@Cold Start)<br>5 seconds typical (@ Hot Start) |
| Geodetic Datum .....    | WGS84   |

## ***NMEA 0183 INPUT/OUTPUT Sentences***

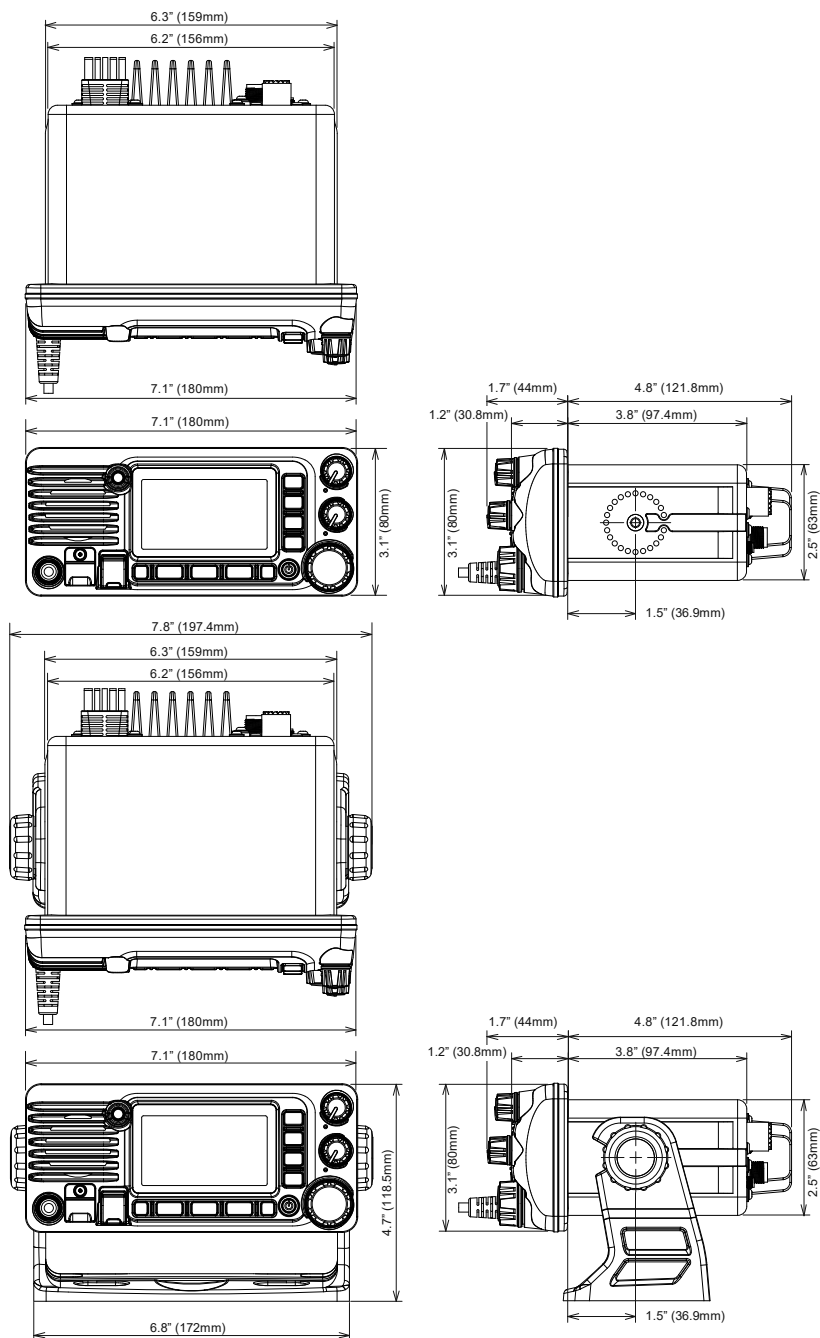
4800 Baud selected:

|  |  |
|--|--|
| NMEA 0183 Input (4800 baud) .....          | GGA, GLL, GNS, RMC, GSA, & GSV             |
| NMEA 0183 Output (4800 baud) .....         | DSC, DSE, GGA, GLL, GNS,<br>RMC, GSA & GSV |
| NMEA 0183-HS AIS Output (38400 baud) ..... | VDM  |

38400 Baud selected:

|  |  |
|--|--|
| NMEA 0183-HS Input (38400 baud) .....      | GGA, GLL, GNS, RMC, GSA, & GSV             |
| NMEA 0183-HS Output (38400 baud) .....     | DSC, DSE, GGA, GLL, GNS,<br>RMC, GSA & GSV |
| NMEA 0183-HS AIS Output (38400 baud) ..... | VDM  |

# 24.1 DIMENSIONS



## 25 FCC AND CANADA RADIO LICENSE INFORMATION

Standard Horizon radios comply with the Federal Communication Commission (FCC) and the Innovation, Science and Economic Development Canada (ISED) requirements that regulate the Maritime Radio Service.

### 25.1 STATION LICENSE

An FCC ship station license is no longer required for any vessel traveling in U.S. waters (except Hawaii) which is under 20 meters in length. However, any vessel required to carry a marine radio on an international voyage, carrying a HF single side band radiotelephone or marine satellite terminal is required to have a ship station license. FCC license forms, including applications for ship (605) and land station licenses can be downloaded via the Internet at <https://www.fcc.gov/fcc-form-605>. To obtain a form from the FCC, call (888) 225-5322.

### 25.2 RADIO CALL SIGN

Currently the FCC does not require recreational boaters to have a Ship Radio Station License. The USCG recommends the boats registration number and the state to be used when calling another vessel.

### 25.3 CANADIAN SHIP STATION LICENSING

Please click on the following link for licensing information:  
[http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/h\\_sf01775.html](http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/h_sf01775.html)

The following link lists several Branches/Offices regarding licensing. Licensing depends on the region of operations.  
<http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf01742.html>

### 25.4 FCC / ISED INFORMATION

The following data pertaining to the transceiver is necessary to fill out the license application.

|                          |                                  |
|--------------------------|----------------------------------|
| FCC Type Accepted .....  | FCC Part 80                      |
| ISED Type Accepted ..... | RSS-182                          |
| Output Power .....       | 1 Watt (low) and 25 Watts (high) |
| Emission .....           | 16K0G3E, 16K0G2B                 |
| Frequency Range .....    | 156.025 to 163.275MHz            |
| FCC ID .....             | K6630673Y3D                      |
| ISED .....               | 511B-30673Y3D                    |

## 26 NOTICE TO USER

### FCC Caution

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

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

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.
- This radio is designed for and classified as "Occupational/Controlled Use Only", meaning it must be used only during the course of employment by individuals aware of the hazards, and the ways to minimize such hazards; NOT intended for use in an General population/uncontrolled environment
- DO NOT operate the radio without a proper antenna attached, as this may damage the radio and may also cause you to exceed RF exposure limits. A proper antenna is the antenna supplied with this radio by the manufacturer or an antenna specifically authorized by the manufacturer for use with this radio.
- DO NOT transmit for more than 50% of total radio use time, more than 50% of the time can cause RF exposure compliance requirements to be exceeded.
- During operation, if the antenna gain of the antenna used is 3.5dBi, the distance between the user and the antenna should be at least 0.48m, this separation distance will ensure that there is sufficient distance from a properly installed externally-mounted antenna to satisfy the RF exposure requirements.
- During transmissions, your radio generates RF energy that can possibly cause interference with other devices or systems. To avoid such interference, turn off the radio in areas where signs are posted to do so. DO NOT operate the transmitter in areas that are sensitive to electromagnetic radiation such as hospitals, aircraft, and blasting sites.

## IC Caution

English: This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

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

Français: Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) l'appareil ne doit pas produire de brouillage;
  - (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.
- This radio is designed for and classified as "Occupational/Controlled Use Only", meaning it must be used only during the course of employment by individuals aware of the hazards, and the ways to minimize such hazards; NOT intended for use in an General population/uncontrolled environment
  - DO NOT operate the radio without a proper antenna attached, as this may damage the radio and may also cause you to exceed RF exposure limits. A proper antenna is the antenna supplied with this radio by the manufacturer or an antenna specifically authorized by the manufacturer for use with this radio.
  - DO NOT transmit for more than 50% of total radio use time, more than 50% of the time can cause RF exposure compliance requirements to be exceeded.
  - During operation, if the antenna gain of the antenna used is 3.5dBi, the distance between the user and the antenna should be at least 0.53m, this separation distance will ensure that there is sufficient distance from a properly installed externally-mounted antenna to satisfy the RF exposure requirements
  - During transmissions, your radio generates RF energy that can possibly cause interference with other devices or systems. To avoid such interference, turn off the radio in areas where signs are posted to do so. DO NOT operate the transmitter in areas that are sensitive to electromagnetic radiation such as hospitals, aircraft, and blasting sites.

## STANDARD HORIZON Limited Warranty

Limited Warranty is valid only in the country/region where this product was originally purchased.

### On-line Warranty Registration:

Thank you for buying STANDARD HORIZON products! We are confident your new radio will serve your needs for many years! Please register your product at [www.standardhorizon.com](http://www.standardhorizon.com) - Owner's Corner

### Warranty Terms:

Subject to the Limitations of the Warranty and the Warranty Procedures described below, YAESU MUSEN hereby warrants this product to be free of defects in materials and workmanship in normal use during the "Warranty Period." (the "Limited Warranty").

### Limitations of Warranty:

- A. YAESU MUSEN is not liable for any express warranties except the Limited Warranty described above.
- B. The Limited Warranty is extended only to the original end-use purchaser or the person receiving this product as a gift, and shall not be extended to any other person or transferee.
- C. Unless a different warranty period is stated with this YAESU product, the Warranty Period is three years from the date of retail purchase by the original end-use purchaser.
- D. The Limited Warranty is valid only in the country/region where this product was originally purchased.
- E. During the Warranty Period, YAESU MUSEN will, at its sole option, repair or replace (using new or refurbished replacement parts) any defective parts within a reasonable period of time and free of charge.
- F. The Limited Warranty does not cover shipping cost (including transportation and insurance) from you to us, or any import fees, duties or taxes.
- G. The Limited Warranty does not cover any impairment caused by tampering, misuse, failure to follow instructions supplied with the product, unauthorized modifications, or damage to this product for any reasons, such as: accident; excess moisture; lightning; power surges; connection to improper voltage supply; damage caused by inadequate packing or shipping procedures; loss of, damage to or corruption of stored data; product modification to enable operation in another country/purpose other than the country/purpose for which it was designed, manufactured, approved and/or authorized; or the repair of products damaged by these modifications.
- H. The Limited Warranty applies only to the product as it existed at the time of the original purchase, by the original retail purchaser, and shall not preclude YAESU MUSEN from later making any changes in design, adding to, or otherwise improving subsequent versions of this product, or impose upon YAESU MUSEN any obligation to modify or alter this product to conform to such changes, or improvements.
- I. YAESU MUSEN assumes no responsibility for any consequential damages caused by, or arising out of, any such defect in materials or workmanship.
- J. TO THE FULLEST EXTENT PERMITTED BY LAW, YAESU MUSEN SHALL NOT BE RESPONSIBLE FOR ANY IMPLIED WARRANTY WITH RESPECT TO THIS PRODUCT.
- K. If the original retail purchaser timely complies with the Warranty Procedures described below, and YAESU MUSEN elects to send the purchaser a replacement product rather than repair the "original product", then the Limited Warranty shall apply to the replacement product only for the remainder of the original product Warranty Period.
- L. Warranty statutes vary from state to state, or country to country, so some of the above limitations may not apply to your location.

### Warranty Procedures:

1. To find the Authorized STANDARD HORIZON Service Center in your country/region, visit [www.standardhorizon.com](http://www.standardhorizon.com). Contact the STANDARD HORIZON Service Center for specific return and shipping instructions, or contact an authorized STANDARD HORIZON dealer/distributor from whom the product was originally purchased.
2. Include proof of original purchase from an authorized STANDARD HORIZON dealer/distributor, and ship the product, freight prepaid, to the address provided by the STANDARD HORIZON Service Center in your country/region.
3. Upon receipt of this product, returned in accordance with the procedures described above, by the STANDARD HORIZON Authorized Service Center, all reasonable efforts will be expended by YAESU MUSEN to cause this product to conform to its original specifications. YAESU MUSEN will return the repaired product (or a replacement product) free of charge to the original purchaser. The decision to repair or replace this product is the sole discretion of YAESU MUSEN.

### Other conditions:

YAESU MUSEN'S MAXIMUM LIABILITY SHALL NOT EXCEED THE ACTUAL PURCHASE PRICE PAID FOR THE PRODUCT. IN NO EVENT SHALL YAESU MUSEN BE LIABLE FOR LOSS OF, DAMAGE TO OR CORRUPTION OF STORED DATA, OR FOR SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR INDIRECT DAMAGES, HOW EVER CAUSED; INCLUDING WITHOUT LIMITATION TO THE REPLACEMENT OF EQUIPMENT AND PROPERTY, AND ANY COSTS OF RECOVERING, PROGRAMMING OR REPRODUCING ANY PROGRAM OR DATA STORED IN OR USED WITH THE YAESU PRODUCT.

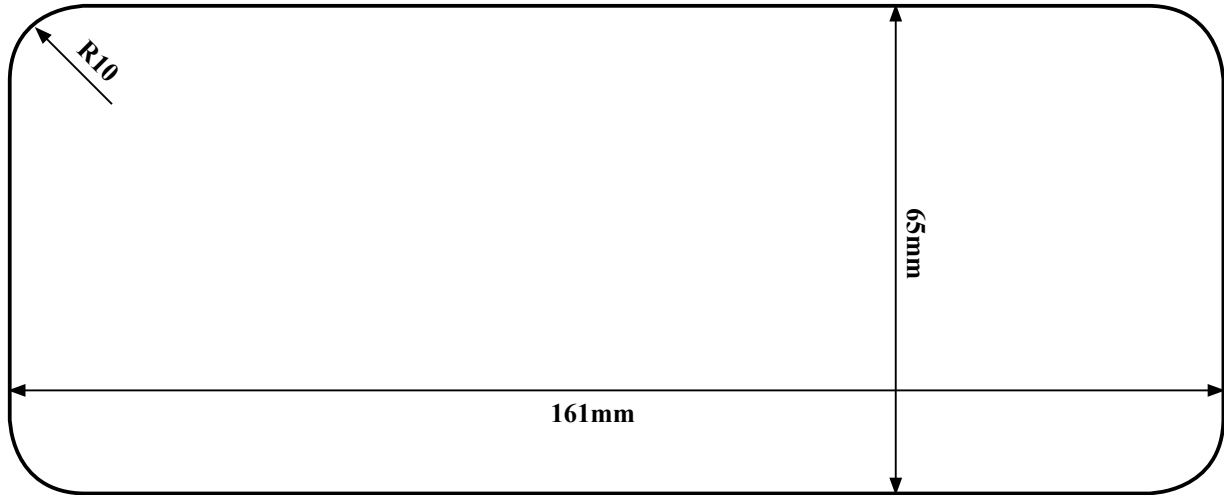
Some Countries in Europe and some States of the USA do not allow the exclusion or limitation of incidental or consequential damages, or a limitation on how long an implied warranty lasts, so the above limitation or exclusions may not apply. This warranty provides specific rights, there may be other rights available which may vary between countries in Europe or from state to state within the USA.

This Limited Warranty is void if the label bearing the serial number has been removed or defaced.

cut here

---

## TEMPLATE for the GX2410 series



**Use this template to mark the location where the rectangular hole for the flush mount is to be cut.**



# **YAESU**

## **Declaration of Conformity**

|                          |   |
|--------------------------|---|
| Type of Equipment:       | 25 Watt VHF/FM Marine Transceiver   |
| Brand Name:              | STANDARD HORIZON  |
| Model Number:            | GX2410GPS   |
| Manufacturer:            | YAESU MUSEN CO., LTD.   |
| Address of Manufacturer: | Omori Bell port D building 3F,<br>6-26-3 Minamioi, Shinagawa-ku, Tokyo 140-0013 JAPAN |

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions; (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The technical documentation as required by the Conformity Assessment procedures is kept at the following address:

Company: Yaesu U.S.A.

Address: 6125 Phyllis Drive, Cypress, CA 90630, U.S.A.

Telephone: (714) 827-7600

# ***STANDARD HORIZON***

*Nothing takes to water like Standard Horizon*

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YAESU MUSEN CO., LTD.

## **YAESU MUSEN CO., LTD.**

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Fareham, Hampshire PO15 5FG, United Kingdom

2407G-AS-1  
Printed in Japan



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