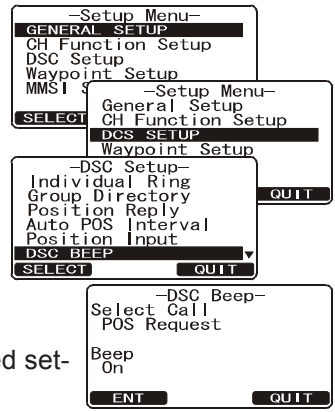
12.8.2 Setting up a Position Request Ringer

The **GX1600** has the capability to turn off the Position Request ringer.

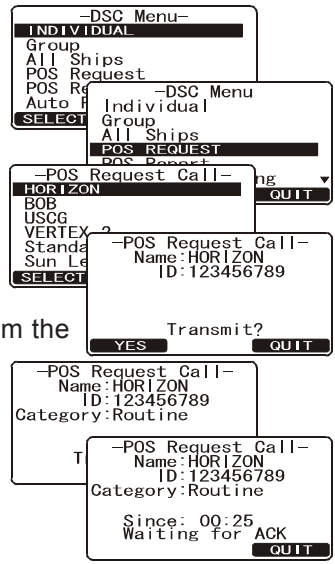


1. Press and hold down the CALL MENU key until "**Setup Menu**" appears.
2. Press the ▲/▼ key to select "**DSC SETUP**" menu.
3. Press the [**SELECT**] soft key, then select "**DSC BEEP**" with the ▲/▼ key.
4. Press the [**SELECT**] soft key, then select "**POS Request**" with the ▲/▼ key.
5. Press the [**ENT**] soft key, then select "**Off**" with the ▲/▼ key.
6. Press the [**ENT**] soft key to store the selected setting.
7. Press the [**QUIT**] soft key several times to return to radio operation.

To re-enable the ringer tone, repeat the above procedure, pressing the ▲/▼ key to select "**On**" in step "5" above.

12.8.3 Transmitting a Position Request to Another Vessel

Pre-Programmed Request



1. Press the CALL MENU key. The "**DSC Menu**" will appear.
2. Press the ▲/▼ key to select "**POS REQUEST**".
3. Press the ▲/▼ key to select a name that was stored in the Individual DSC directory, then press the [**SELECT**] soft key.
4. Press the [**YES**] soft key to transmit the Position Request DSC call.
5. When the **GX1600** receives the position from the polled vessel it is shown on the radio display and also transferred to a GPS Chart plotter with NMEA DSC and DSE sentences.
6. Press the [**QUIT**] soft key to return to radio operation.

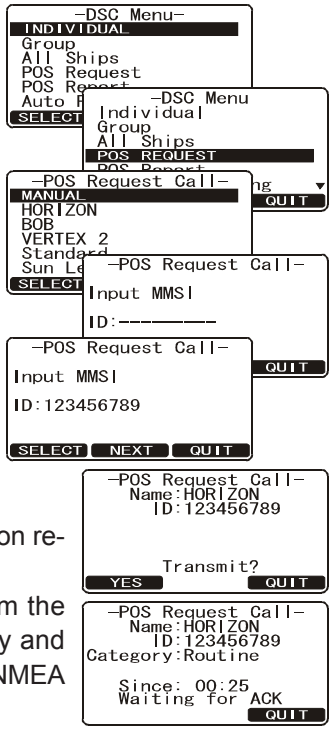
NOTE

If the **GX1600** does not receive a position data from the polled vessel, the display will show "NO POSITION DATA."

Manual Request

This feature allows you to request the position of vessel by manually entering the MMSI of the ship you want to send your position to.

1. Press the [**CALL**(**MENU**)] key. The "**DSC Menu**" will appear.
2. Press the ▲/▼ key to select "**POS REQUEST**".
3. Press the [**SELECT**] soft key to show the "Last Individual Call".
4. Press the ▲/▼ key to select the "**MANUAL**," then press the [**SELECT**] soft key.
5. Press the ▲/▼ key to select the first number of the MMSI (nine digits) which you want to contact, then press the [**SELECT**] soft key to step to the next number.
6. Repeat step 5 to set the MMSI number.
7. If a mistake was made entering in the MMSI number, repeat pressing the [**BACK**] soft key until the wrong number is selected, then press the ▲/▼ key to correct the entry.
8. When finished entering the MMSI number, press and hold the [**SELECT**] soft key.
9. Press the [**YES**] soft key to transmit the position request DSC call.
10. When the **GX1600** receives the position from the polled vessel it is shown on the radio display and also transferred to the GPS Chart plotter with NMEA DSC and DSE sentences.
11. Press the [**QUIT**] soft key to return to radio operation.

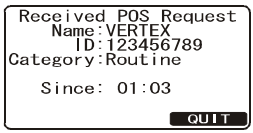


12.8.4 Receiving a Position Request

When a position request call is received from another vessel, a ringing alarm sounds and POS REQUEST will be shown in the display. Operation and transceiver function differs depending on "**Position Reply**" in the "**DSC Setup**" menu setting discussed below:

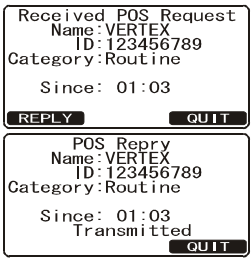
Automatically reply:

1. When a position request call is received, a calling alarm sounds 4 times. Then requested position coordinates are transmitted automatically to the vessel requesting your vessels position.
2. To exit from position request display, press the [**QUIT**] soft key.



Manually reply:

1. When a position request call is received from another vessel, the display will be as shown in the illustration at the right.
2. A ringing alarm sounds 4 times. To send your vessels position to the requesting vessel, press the [**REPLY**] soft key. Or to exit from position request display, press the [**QUIT**] soft key.



12.9 POSITION REPORT

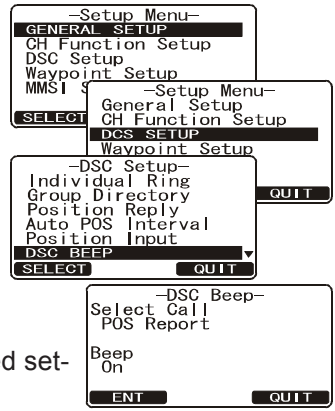
The feature is similar to Position Request, however instead of requesting a position of another vessel this function allows you to send your position to another vessel. Your vessel must have an operating GPS receiver connected for the **GX1600** to send the position.

NOTE

To transmit a Position Report Call, a GPS must be connected to the radio and the **GX1600** Individual directory must be programmed with stations you wish to send your position to. To setup this directory refer to section "**11.5.1 Setting up the Individual / Position Call Directory**."

12.9.1 Setting up a Position Report Ringer

The **GX2000/GX2100** has the capability to turn off the Position Report ringer.

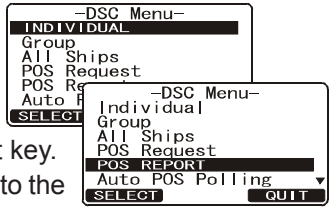


1. Press and hold down the CALL MENU key until "**Setup Menu**" appears.
2. Press the ▲/▼ key to select "**DSC SETUP**" menu.
3. Press the [**SELECT**] soft key, then select "**DSC BEEP**" with the ▲/▼ key.
4. Press the [**SELECT**] soft key, then select "**POS Report**" with the ▲/▼ key.
5. Press the [**ENT**] soft key, then select "**Off**" with the ▲/▼ key.
6. Press the [**ENT**] soft key to store the selected setting.
7. Press the [**QUIT**] soft key several times to return to radio operation.

To re-enable the ringer tone, repeat the above procedure, pressing the ▲/▼ key to select "**On**" in step "5" above.

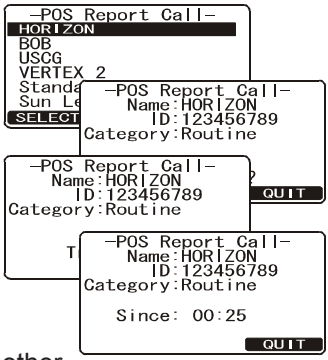
12.9.2 Transmitting a DSC Position Report Call

Pre-Programmed Calling



1. Press the CALL MENU key. The "**DSC Menu**" will appear.
2. Press the ▲/▼ key to select "**POS REPORT**". (To cancel, press the [**QUIT**] soft key.)
3. Press the [**SELECT**] soft key.
4. Press the ▲/▼ key to select the name in the directory, then press the [**SELECT**] soft key.
5. Press the [**YES**] soft key to send your position to the selected vessel.

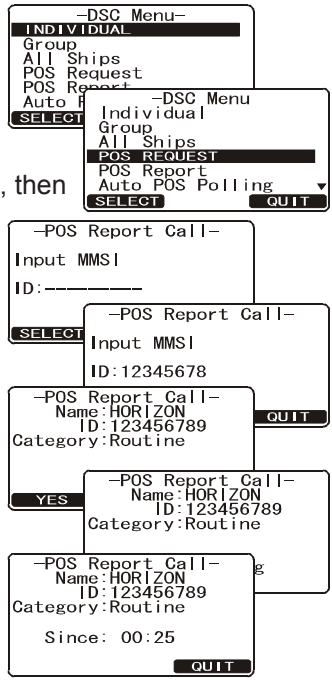
6. Press the [**QUIT**] key to return to radio operation.



Manual Calling

This feature allows you to send your position to another vessel by manually entering the MMSI of the ship you want to send your position to.

1. Press the CALL MENU key. The "**DSC Menu**" will appear.
2. Press the ▲/▼ key to select "**POS REPORT**". (To cancel, press the [**QUIT**] soft key.)
3. Press the [**SELECT**] soft key. The transceiver will beep, and the "Position Report Call" menu will appear.
4. Press the ▲/▼ key to select "**MANUAL**", then press the [**SELECT**] soft key.
5. Press the ▲/▼ key to select the first number of the MMSI which you want to contact, then press the [**SELECT**] soft key to step to the next number.
6. Repeat step 5 to set the MMSI number.
7. If a mistake was made entering in the MMSI number, repeat pressing the [**BACK**] soft key until the wrong number is selected, then press the ▲/▼ key to correct the entry.
8. When finished entering the MMSI number, press and hold the Press the [**SELECT**] soft key.
9. Press the [**YES**] soft key to send your position to the selected vessel.
10. Press the [**QUIT**] soft key to return to radio operation.



12.9.3 Receiving a DSC Position Report Call

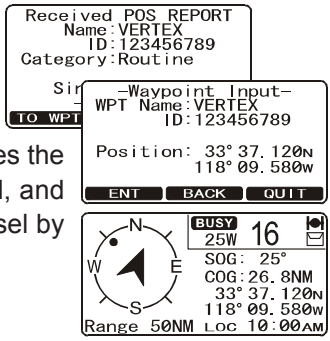
When another vessel transmits their vessels location to the **GX1600** the following will happen:

1. A ringing sound will be produced when the call is received and NMEA sentences DSC, DSE are outputted so the position can be shown on a chart plotter or a computer.
2. Press the any key to stop ringing.
3. Press the ▲/▼ key to see position information of the station.
4. To exit to radio mode, press the [**QUIT**] soft key.

12.9.4 Navigating to a Position Report

The **GX1600** has a feature that allows navigation to a received Position Report call by using the Compass display. Navigating to the position of a Position Report call may be enabled by the procedure below.

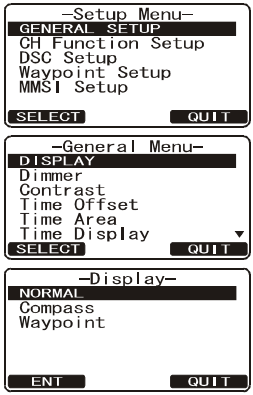
1. After the Position Report call has been received: press the [**TO WPT**] soft key.
2. To start navigating using the compass display, press and hold the [**ENT**] soft key until the Compass Page is shown. The display indicates the distance and direction of the received vessel, and also the compass indicates the received vessel by dot (●).



Stop Navigating to a Position Report

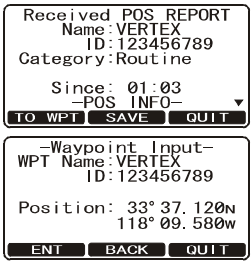
To stop navigation and return to the radio mode:

1. Press and hold down the CALL MENU key until "**Setup Menu**" appears.
2. Press the ▲/▼ key to select "**GENERAL SETUP**" menu.
3. Press the [**SELECT**] soft key, then select "**DISPLAY**" with the ▲/▼ key.
4. Press the [**SELECT**] soft key.
5. Press the ▲/▼ key to select "**NORMAL**".
6. Press the [**ENT**] soft key to return to radio operation.



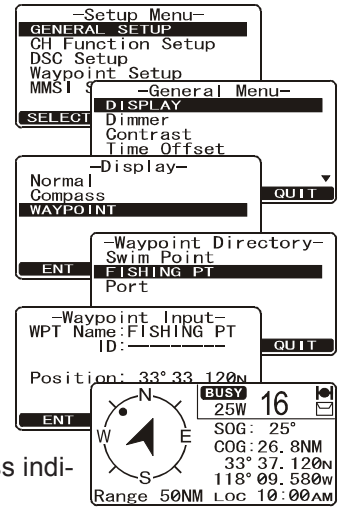
Saving a Position Report as a Waypoint

The **GX1600** can save a Position Report call in the radios memory as a waypoint.



1. After the Position Report call has been received: Press the [**SAVE**] soft key.
2. Press the ▲/▼ key to change the first letter in the name of the waypoint and press the [**ENT**] soft key.
3. Repeat step 2 until the WPT Name is entered.
4. Press and hold the [**ENT**] soft key to save the waypoint into memory.

Navigating to a saved waypoint



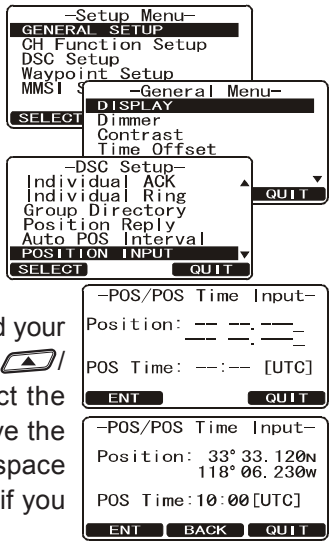
1. Press and hold down the CALL MENU key until "**Setup Menu**" appears.
2. Select "**GENERAL SETUP**" with the ▲/▼ key.
3. Press the [**SELECT**] soft key, then select "**DISPLAY**" with the ▲/▼ key.
4. Press the ▲/▼ key to select "**WAYPOINT**" and press the [**ENT**] soft key.
5. Press the ▲/▼ key to select the waypoint name and press the [**ENT**] soft key.
6. Press the [**ENT**] key so show the compass display and to navigate to the waypoint. The display indicates the distance and direction of the saved waypoint, and also the compass indicates the saved waypoint by dot (●).

12.10 MANUAL INPUTTING OF THE GPS LOCATION (LAT/LON)

You may send the Latitude/Longitude of your vessel manually even if the **GX1600** is not connected the GPS receiver unit.

After the position is entered, transmitting a DSC Distress, Position Request, or Position Report will contain the manually entered position.

1. Press and hold down the CALL MENU key until "**Setup Menu**" appears.
2. Press the ▲/▼ key to select "**DSC SETUP**" menu.
3. Press the [**SELECT**] soft key, then select "**POSITION INPUT**" with the ▲/▼ key.
4. Press the [**SELECT**] soft key. The transceiver will beep, and the display will be as shown in the illustration on the right.
5. Enter the latitude/longitude of your vessel and your local UTC time in the 24-hour notation by the ▲/▼ key. Press the ▲/▼ key to select the number and press the [**ENT**] soft key to move the cursor to the next character. You may backspace the cursor by pressing the [**BACK**] soft key, if you make a mistake.
6. To store the data entered, press and hold the [**ENT**] soft key.
7. Press the [**QUIT**] soft key several times to return to radio operation.

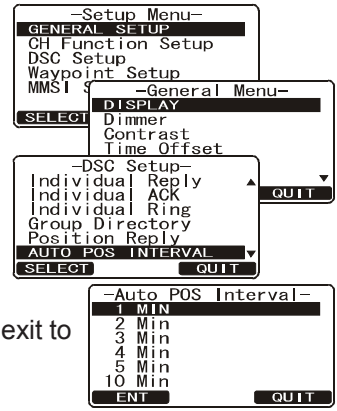


12.11 AUTO DSC POLLING

The **GX1600** has the capability to automatically track four stations programmed into the Indvidual directory.

The following procedure allows the time interval between position requests to be setup.

1. Press and hold down the CALL MENU key until "**Setup Menu**" appears.
2. Press the ▲/▼ key to select "**DSC SETUP**" menu.
3. Press the [**SELECT**] soft key, then select "**AUTO DSC INTERVAL**" with the ▲/▼ key.
4. Press the ▲/▼ key to select the desired interval time (1,2,3,4,5,10,30 and 40 minutes) and press the [**ENT**] soft key.
5. Press the [**QUIT**] soft key numerous times to exit to the radio mode.

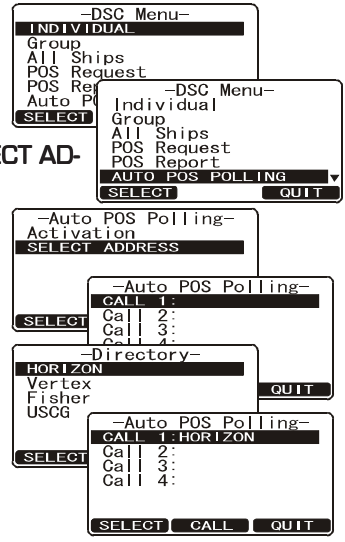


12.11.1 Selecting Stations to be Automatically Polled (tracked)

NOTE

The radio uses the Individual directory to select stations. Refer to section "**11.5.1 Setting up the Individual / Position Call Directory**" and to enter MMSI of stations you want to poll before proceeding.

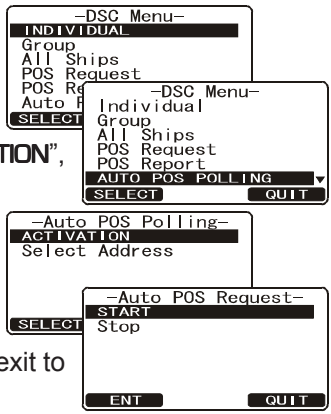
1. Press the CALL MENU key. The "**DSC Menu**" will appear.
2. Press the ▲/▼ key to select "**AUTO POS POLLING**", then press the [**SELECT**] soft key.
3. Press the ▲/▼ key to select the "**SELECT ADDRESS**", then press the [**SELECT**] soft key.
4. The radio will show 4 calling stations to be selected, select "**CALL 1**" and press the [**SELECT**] soft key.
5. The radio will show the stations programmed in the Individual directory. Press the ▲/▼ key to select the desired station and press the [**SELECT**] soft key.
6. Repeat steps 4 and 5 for CALL 2, CALL 3 and CALL 4 entries.



7. When finished, press the [**QUIT**] soft key numerous times to exit to the radio mode.

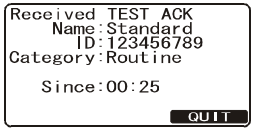
12.11.2 Enable/Disable Auto DSC Polling

1. Press the CALL MENU key. The "**DSC Menu**" will appear.
2. Press the ▲/▼ key to select "**AUTO POS POLLING**", then press the [**SELECT**] soft key.
3. Press the ▲/▼ key to select the "**ACTIVATION**", then press the [**SELECT**] soft key.
4. Select "**START**" to enable transmissions to the stations or "**STOP**" to disable transmissions to stations.
5. Press the [**ENT**] soft key.
6. Press the [**QUIT**] soft key numerous times to exit to the radio mode.



NOTE

When the radio receives position reports from a called vessel the display will show the image to the right and also output NMEA 0183 DSC and DSE sentences to a GPS Chart plotter.



12.12 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 this feature, the radio you will be transmitting the test call to needs to have the DSC Test feature.

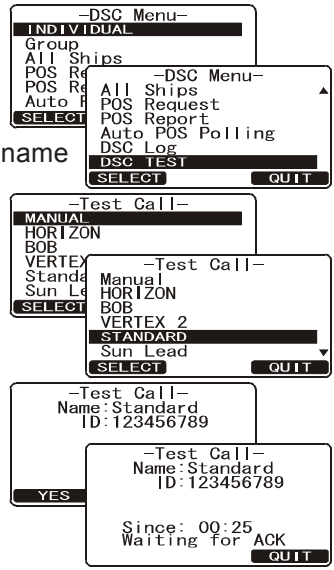
To perform the DSC test you will need to enter a MMSI of another vessel into the Individual directory or manually enter in the MMSI using the procedure below.

12.12.1 Programming MMSI into Individual Directory

Refer to section "**11.5.1 Setting up the Individual / Position Call Directory**".

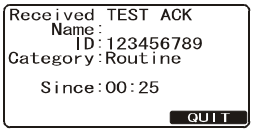
12.12.2 DSC Test call by using Individual Directory

1. After programming a individual MMSI into the **GX1600** (refer to section "**11.5.1 Setting up the Individual / Position Call Directory**").
2. Press the CALL MENU key. The "**DSC Menu**" will appear.
3. Press the ▲/▼ key to select "**DSC TEST**", then press the [**SELECT**] soft key.
4. Press the ▲/▼ key to select the Ship name and press the [**SELECT**] soft key.
5. Press the [**YES**] soft key to transmit the DSC test call to the other vessel.



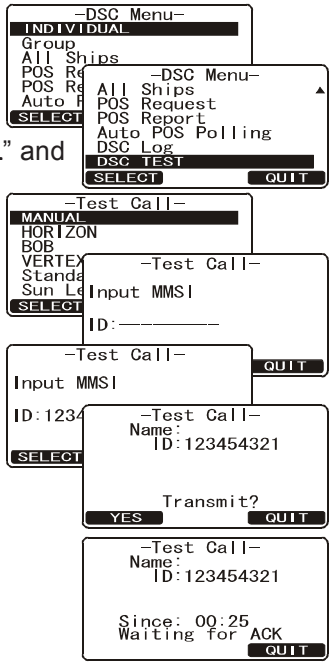
NOTE

After the radio receive a Test Call reply from vessel that was called, the radio will ring and show TEST ACK display, which confirms the radio you called received the test call.



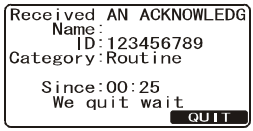
12.12.3 DSC Test Call by Manually Entering MMSI

1. Press the CALL MENU key. The "**DSC Menu**" will appear.
2. Press the ▲/▼ key to select "**DSC TEST**", then press the [**SELECT**] soft key.
3. Press the ▲/▼ key to select "**MANUAL**" and press the [**SELECT**] soft key.
4. Press the ▲/▼ key to select the first digit in the MMSI and press the [**SELECT**] soft key.
5. Repeat step 4 until all the numbers of the MMSI are shown on the display.
6. Press and hold the [**SELECT**] soft key to show the Test Call page.
7. Press the [**YES**] soft key to transmit the DSC Test Call to the other vessel.



NOTE

After the radio receive a Test Call reply from vessel that was called, the radio will ring and show TEST ACK display, which confirms the radio you called received the test call.



MEMO

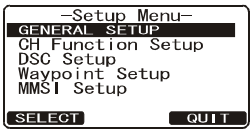
13 GENERAL SETUP

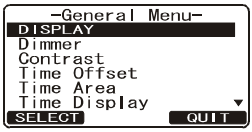
The optional **CMP30** (**RAM3**) Remote Station Microphone can also change the SETUP menu using the following procedure.

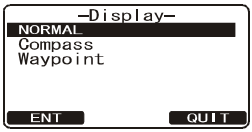
13.1 DISPLAY

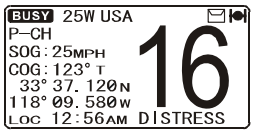
The **GX1600** can select additional screens other than the default normal (Radio) display by using the procedure below.

1. Press and hold down the CALL MENU key until "**Setup Menu**" appears, then select "**GENERAL SETUP**" with the ▲/▼ key.
2. Press the [**SELECT**] soft key, then press the ▲/▼ key to select "**DISPLAY**".
3. Press the [**SELECT**] soft key.
4. Press the ▲/▼ key to select desired screen type "**NORMAL**", "**COMPASS**", or "**WAYPOINT**".
5. Press the [**SELECT**] soft key to store the selected setting.
6. Press the [**QUIT**] soft key several times to return to radio operation.

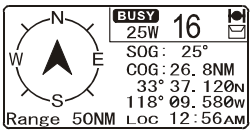




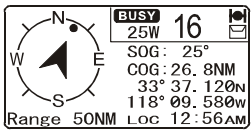




"**NORMAL**" DISPLAY



"**COMPASS**" DISPLAY

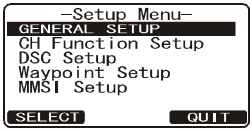


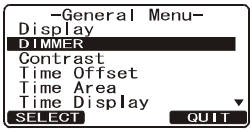
"**WAYPOINT**" DISPLAY

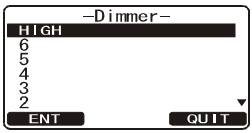
13.2 LAMP ADJUSTING

This menu selection adjusts the backlight intensity.

1. Press and hold down the [CALL MENU] key until "**Setup Menu**" appears, then select "**GENERAL SETUP**" with the [▲]/[▼] key.
2. Press the [**SELECT**] soft key, then press the [▲]/[▼] key to select "**DIMMER**".
4. Press the [▲]/[▼] key to select the desired level ("**HIGH**" is default). When "**OFF**" is selected, the lamp is turned off.
5. Press the [**ENT**] soft key to store the selected level.
6. Press the [**QUIT**] soft key several times to return to radio operation.



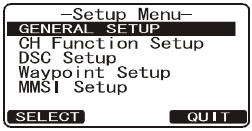


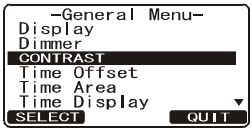


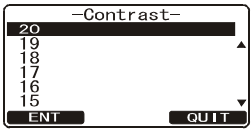
13.3 DISPLAY CONTRAST

Due to varying this selection sets up the display contrast for overhead or dash installations.

1. Press and hold down the [CALL MENU] key until "**Setup Menu**" appears, then select "**GENERAL SETUP**" with the [▲]/[▼] key.
2. Press the [**SELECT**] soft key, then press the [▲]/[▼] key to select "**CONTRAST**".
3. Press the [**SELECT**] soft key.
4. Press the [▲]/[▼] key to select the desired level. The contrast level can be set from "**0**" to "**31**" ("**HIGH**" is default).
5. Press the [**ENT**] soft key to store the selected level.
6. Press the [**QUIT**] soft key several times to return to radio operation.



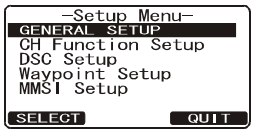


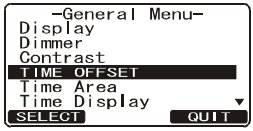


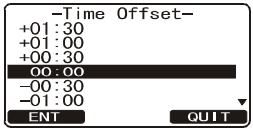
13.4 TIME OFFSET

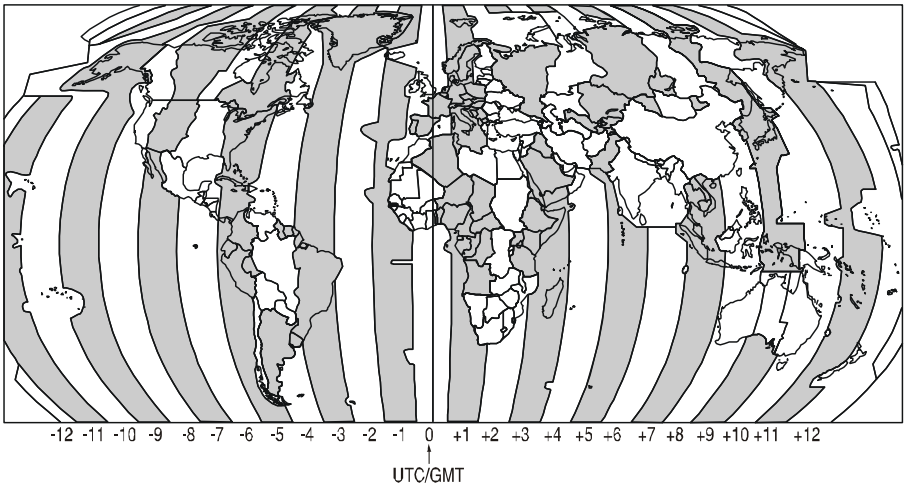
Sets the time offset between local time (with inputted offset) and UTC (without time offset) shown on the display. Time is displayed only when an optional GPS Chart Plotter is connected.

1. Press and hold down the CALL MENU key until "**Setup Menu**" appears, then select "**GENERAL SETUP**" with the ▲/▼ key.
2. Press the [**SELECT**] soft key, then press the ▲/▼ key to select "**TIME OFFSET**".
3. Press the [**SELECT**] soft key, then press the ▲/▼ key to select time offset of your location. See illustration below to find your offset time. If "**00:00**" is assigned, the time is the same as UTC (Universal Time Coordinated or GPS Satellite Time).
4. Press the [**ENT**] soft key to store the time offset.
5. Press the [**QUIT**] soft key several times to return to radio operation.







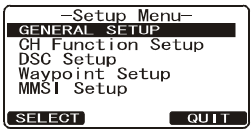


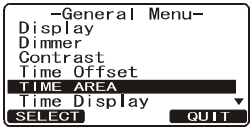
OFFSET TIME TABLE

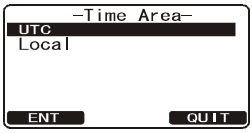
13.5 TIME AREA

This menu selection allows the radio to show UTC time or local time with the offset.

1. Press and hold down the CALL MENU key until "**Setup Menu**" appears, then select "**GENERAL SETUP**" with the ▲/▼ key.
2. Press the [**SELECT**] soft key, then press the ▲/▼ key to "**TIME AREA**".
3. Press the [**SELECT**] soft key.
4. Rotate the **CHANNEL** knob to select "**UTC**" or "**LOCAL**".
5. Press the [**ENT**] soft key to store the selected setting.
6. Press the [**QUIT**] soft key several times to return to radio operation.



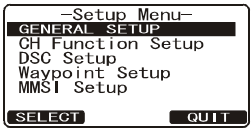


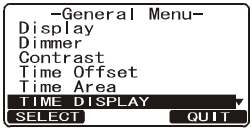


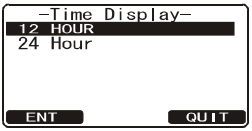
13.6 TIME DISPLAY

This menu selection allows the radio to show time in 12-hour or 24-hour format.

1. Press and hold down the CALL MENU key until "**Setup Menu**" appears, then select "**GENERAL SETUP**" with the ▲/▼ key.
2. Press the [**SELECT**] soft key, then press the ▲/▼ key to select "**TIME DISPLAY**".
3. Press the [**SELECT**] soft key.
4. Press the ▲/▼ key to select "**12 HOUR**" or "**24 HOUR**".
5. Press the [**ENT**] soft key to store the selected setting.
6. Press the [**QUIT**] soft key several times to return to radio operation.







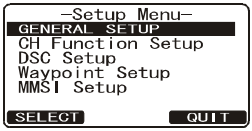
13.7 UNIT OF MEASURE

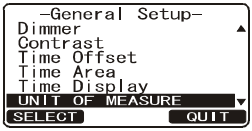
Allows Navigation and AIS displays to be shown in “Knot”, “Mile/Hour” or “Kilo-Meter/Hour” (for speed) and “Nautical Mile” or “Kilo-Meter” (for distance).

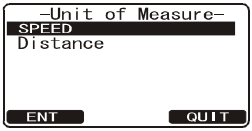
NOTE

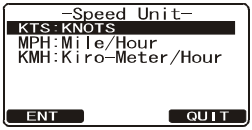
A GPS must be connected to the radio to be able to show SPEED and DISTANCE.

1. Press and hold down the CALL MENU key until “**Setup Menu**” appears, then select “**GENERAL SETUP**” with the ▲/▼ key.
2. Press the [**SELECT**] soft key, then press the ▲/▼ key to select “**UNIT OF MEASURE**”.
3. Press the [**SELECT**] soft key.
4. Press the ▲/▼ key to select “**SPEED**” or “**DISTANCE**” which you wish to change.
5. Press the [**SELECT**] soft key, then press the ▲/▼ key to select desired unit. Available selections are KTS (knot), MPH (Mile/Hour), or KMH (Kilo-Meter/Hour) for speed, and NH (Nautical Mile) or KM (Kilo-Meter) for distance.
6. Press the [**ENT**] soft key to store the selected setting.
7. Press the [**QUIT**] soft key several times to return to radio operation.









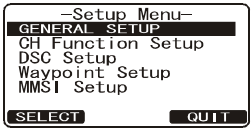
13.8 MAGNETIC

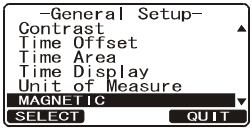
This selection allows customizing the GPS COG (Course Over Ground) displayed in True or Magnetic.

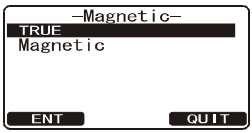
NOTE

A GPS must be connected to the radio to be able to show COG.

1. Press and hold down the CALL MENU key until "**Setup Menu**" appears, then select "**GENERAL SETUP**" with the ▲/▼ key.
2. Press the [**SELECT**] soft key, then press the ▲/▼ key to select "**MAGNETIC**".
3. Press the [**SELECT**] soft key.
4. Press the ▲/▼ key to select "**TRUE**" or "**MAGNETIC**".
5. Press the [**ENT**] soft key to store the selected setting.
6. Press the [**QUIT**] soft key several times to return to radio operation.



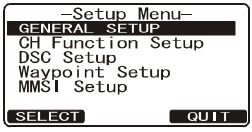


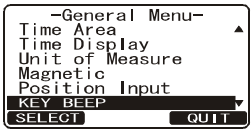


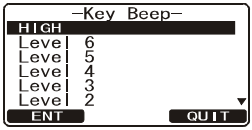
13.9 KEY BEEP

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

1. Press and hold down the CALL MENU key until "**Setup Menu**" appears, then select "**GENERAL SETUP**" with the ▲/▼ key.
2. Press the [**SELECT**] soft key, then press the ▲/▼ key to select "**KEY BEEP**".
3. Press the [**SELECT**] soft key.
4. Press the ▲/▼ key to select the desired level. The beep level can be set from "**LEVEL 1**" to "**LEVEL 6**", "**HIGH**", or "**OFF**".
5. Press the [**ENT**] soft key to store the selected level.
6. Press the [**QUIT**] soft several times to return to radio operation.

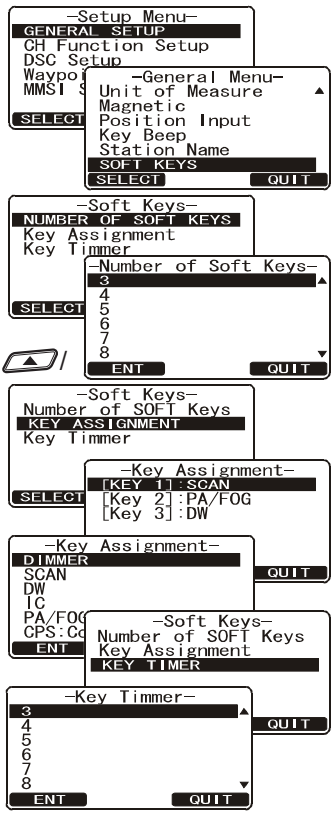






13.10 SOFT KEYS

This menu item allows selection of the number of soft keys, soft key selection and how long the display will show the soft key icon after a soft key is pressed.



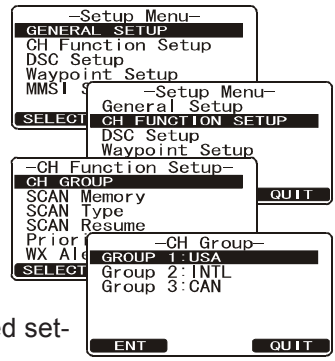
1. Press and hold down the CALL MENU key until "**Setup Menu**" appears, then select "**GENERAL SETUP**" with the ▲/▼ key.
2. Press the [**SELECT**] soft key, then press the ▲/▼ key to "**SOFT KEY**".
3. Press the [**SELECT**] soft key, then press the ▲/▼ key to "**NUMBER OF SOFT KEYS**".
4. Press the [**SELECT**] soft key, then press the ▲/▼ key to select the number of soft keys (**3** through **10**).
5. Press the [**SELECT**] soft key, then press the ▲/▼ key to select "**KEY ASSIGNMENT**" (to change the use of selected soft keys).
6. Press the ▲/▼ key to select the key ("**KEY1**", "**KEY2**", or "**KEY3**"), and press the [**SELECT**] soft key. Then, press the ▲/▼ key to select the new function to be assigned, and press the [**SELECT**] soft key. Available functions are listed below. Repeat step 6 to program the other soft keys.
7. Press the [**QUIT**] key, then press the ▲/▼ key to select "**KEY TIMER**" (selects how long the soft key icon will be shown on the display after a soft key is pressed, default is 5 seconds). Then, press the [**SELECT**] soft key.
8. Press the ▲/▼ key to select the time.
9. Press the [**ENT**] soft key to store the selected setting.
10. Press the [**QUIT**] soft key several times to return to radio operation.

DISPLAY	FUNCTION
SCAN	Starts and stops Scanning.
DW	Starts and stops Dual Watch Scan.
IC	Activates Intercom between radio and **RAM3** mic (optional **RAM3** required).
CMP: COMPASS	Shows to the "Compass" display.
WPT	Shows to the "Waypoint" Navigation display.
PRESET	Porgrams or deletes the preset memory channel.
WX	Immediately recalls the last select the weather channel.
MARK	Marks the current position for the "Waypoint".
PRESET 0 - 9	Immediately recalls the preset memory channel.

14 CHANNEL FUNCTION SETUP

14.1 CHANNEL GROUP

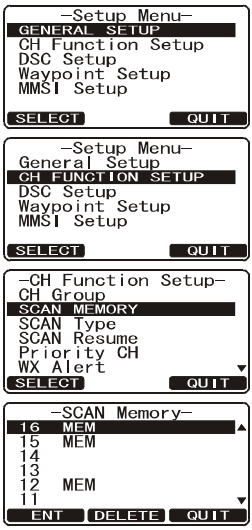
This section selects a channel group from USA, Canada, and International.



1. Press and hold down the CALL MENU key until "**Setup Menu**" appears.
2. Press the ▲/▼ key to select "**CH FUNCTION SETUP**".
3. Press the [**SELECT**] soft key, then press the ▲/▼ key to select "**CH GROUP**".
4. Press the [**SELECT**] soft key.
5. Press the ▲/▼ key to select desired channel group "**USA**", "**INTL**", or "**CANADA**".
6. Press the [**ENT**] soft key to store the selected setting.
7. Press the [**QUIT**] soft key several times to return to radio operation.

14.2 SCAN MEMORY

To be able to scan channels the radio must be programmed. This section allows channels to be stored in scan memory.

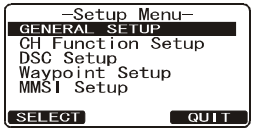


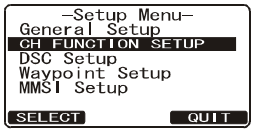
1. Press and hold down the CALL MENU key until "**Setup Menu**" appears.
2. Press the ▲/▼ key to select "**CH FUNCTION SETUP**".
3. Press the [**SELECT**] soft key, then press the ▲/▼ key to select "**SCAN MEMORY**".
4. Press the [**SELECT**] soft key.
5. Press the ▲/▼ key to select a desired channel to be scanned, the press the [**ADD**] key. "**MEM**" icon appears on the display, which indicates the channel has been selected to the scan channel.
6. Repeat step 5 for all the desired channels to be scanned.
7. To DELETE a channel from the list, select the channel then press the [**DELETE**] key. "**MEM**" icon disappears from the display.
8. When you have completed your selection, press the [**QUIT**] soft key several times to return to radio operation.

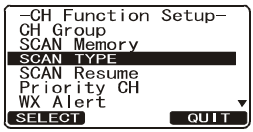
14.3 SCAN TYPE

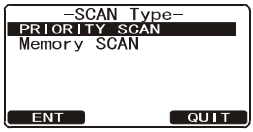
This selection is used to select the scan mode between “Memory Scan” and “Priority Scan”. The default setting is Priority Scan.

1. Press and hold down the CALL MENU key until “**Setup Menu**” appears.
2. Press the ▲/▼ key to select “**CH FUNCTION SETUP**”.
3. Press the [**SELECT**] soft key, then select “**SCAN TYPE**” with the ▲/▼ key.
4. Press the [**SELECT**] soft key.
5. Press the ▲/▼ key to select “**PRIORITY SCAN**” or “**MEMORY SCAN**”.
6. Press the [**ENT**] soft key to store the selected setting.
7. Press the [**QUIT**] soft key several times to return to radio operation.





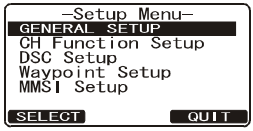


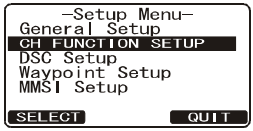


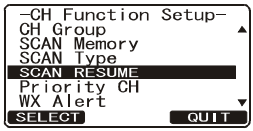
14.4 SCAN RESUME

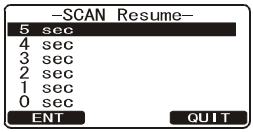
This selection is used to select the time the **GX1600** waits after a transmission ends before the radio start to scan channels again. The default setting is 2 seconds.

1. Press and hold down the CALL MENU key until “**Setup Menu**” appears.
2. Press the ▲/▼ key to select “**CH FUNCTION SETUP**”.
3. Press the [**SELECT**] soft key, then select “**SCAN RESUME**” with the ▲/▼ key.
4. Press the [**SELECT**] soft key.
5. Press the ▲/▼ key to select the desired resume time, default is 2 seconds. The resume time can be set to “**1SEC**” through “**5SEC**”, or “**OFF**”. In the “**OFF**” selection, the scanner will resume after the other station stops transmitting (carrier drops).
6. Press the [**ENT**] soft key to store the selected setting.
7. Press the [**QUIT**] soft key several times to return to radio operation.





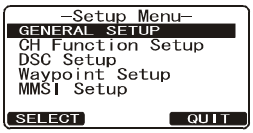


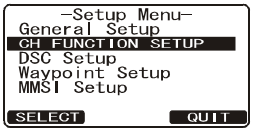


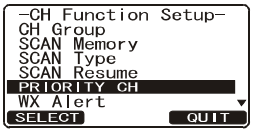
14.5 PRIORITY CHANNEL

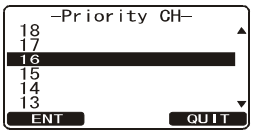
By default the radio priority channel is set to channel 16. This procedure allows the radio to use a different priority channel used when priority scanning.

1. Press and hold down the CALL MENU key until "**Setup Menu**" appears.
2. Press the ▲/▼ key to select "**CH FUNCTION SETUP**".
3. Press the [**SELECT**] soft key, then select "**PRIORITY CH**" with the ▲/▼ key.
4. Press the [**SELECT**] soft key.
5. Press the ▲/▼ key to select the desired channel to be a priority.
6. Press the [**ENT**] soft key to store the selected setting.
7. Press the [**QUIT**] soft key several times to return to radio operation.





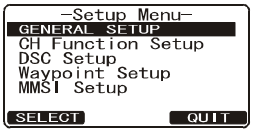


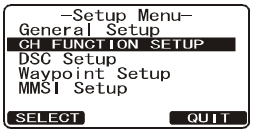


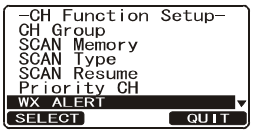
14.6 WEATER ALERT

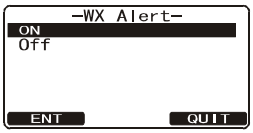
This menu selection allows the WX Alert to be changed. The default setting is On Scan and WX channel.

1. Press and hold down the CALL MENU key until "**Setup Menu**" appears.
2. Press the ▲/▼ key to select "**CH FUNCTION SETUP**".
3. Press the [**SELECT**] soft key, then select "**WX ALERT**" with the ▲/▼ key.
4. Press the [**SELECT**] soft key.
5. Press the ▲/▼ key to select the desired WX alert mode. The WX alert mode can be set to "**ON**" or "**OFF**".
6. Press the [**ENT**] soft key to store the selected setting.
7. Press the [**QUIT**] soft key several times to return to radio operation.







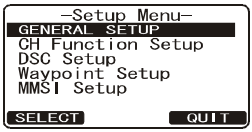


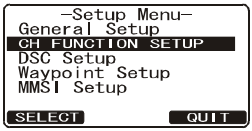
14.7 CHANNEL NAME

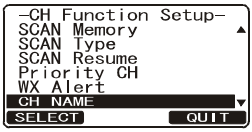
When radio mode (NORMAL) is selected, the display will show a name under the channel number. This name describes the use of the channel. The radio has the capability to customize the name by the procedure below.

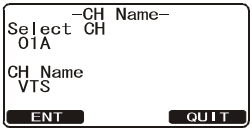
Example: CH69 PLEASURE to HOOKUP

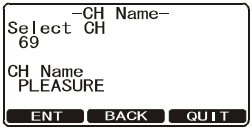
1. Press and hold down the CALL MENU key until "**Setup Menu**" appears.
2. Press the ▲/▼ key to select "**CH FUNCTION SETUP**".
3. Press the [**SELECT**] soft key, then select "**CH NAME**" with the ▲/▼ key.
4. Press the [**SELECT**] soft key.
5. Press the ▲/▼ key to select the channel to be named, then press the [**ENT**] soft key.
6. Press the ▲/▼ key to scroll through the first letter of the new channel name.
7. Press the [**ENT**] soft key to store the first letter in the name and step to the next letter to the right.
8. Repeat step 6 and 7 until the name is complete. The name can consist of up to 16 characters, if you do not use all 16 characters press the [**ENT**] soft key to move to the next space. This method can also be used to enter a blank space in the name. If a mistake was made entering in the name repeat pressing the [**BACK**] key until the wrong character is selected, then press the ▲/▼ key to correct the entry.
9. Press and hold the [**ENT**] soft key to save the name.
10. If you want to enter the name of another channel, repeat steps 5 through 9.
11. Press the [**QUIT**] soft key several times to return to radio operation.

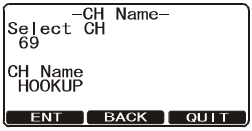






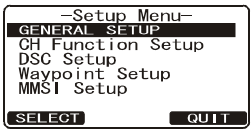


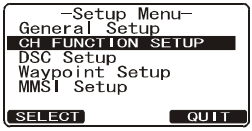


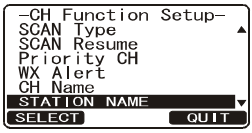


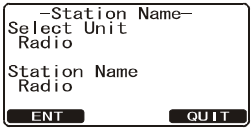
14.8 STATION NAME

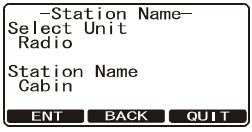
This function allows you to change the name of the radio or second station microphone. Example: “Radio - Cabin”, “RAM1 - Flybridge”.











1. Press and hold down the CALL MENU key until “**Setup Menu**” appears.
2. Press the ▲/▼ key to select “**CH FUNCTION SETUP**”.
3. Press the [**SELECT**] soft key, then select “**STATION NAME**” with the ▲/▼ key.
4. Press the [**SELECT**] soft key.
5. With the second station microphone connected, press the ▲/▼ key to select the Unit (“**Radio**” or “**RAM1**”) to be named, then press the [**ENT**] soft key.
6. Press the ▲/▼ key to scroll through the first letter of the new channel name.
7. Press the [**ENT**] soft key to store the first letter in the name and step to the next letter to the right.
8. Repeat step 6 and 7 until the name is complete. The name can consist of up to 8 characters, if you do not use all 8 characters press the [**ENT**] soft key to move to the next space. This method can also be used to enter a blank space in the name. If a mistake was made entering in the name repeat pressing the [**BACK**] key until the wrong character is selected, then press the ▲/▼ key to correct the entry.
9. Press and hold the [**ENT**] soft key to enter the name.
10. If you want to enter the name of the connected **RAM3** or Radio, repeat steps 5 through 9.
11. Press the [**QUIT**] soft key several times to return to radio operation.

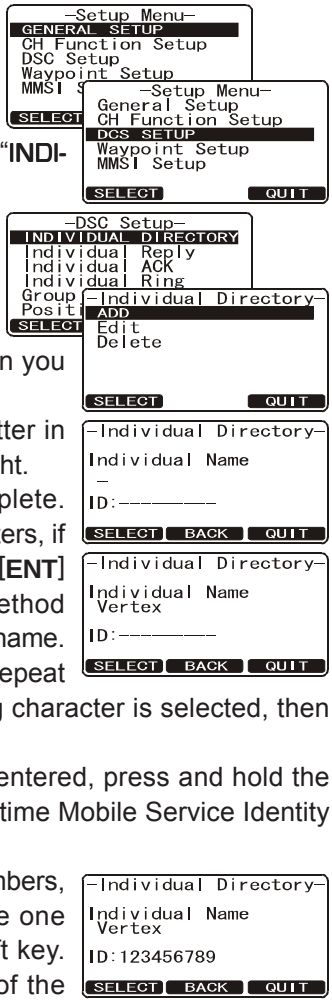
15 DSC SETUP

15.1 INDIVIDUAL DIRECTORY

The **GX2000/GX2100** has a DSC directory that allows you to store a vessel or person's name and the MMSI number associated with vessels you wish to transmit Individual calls, Position Requests and Position Send transmissions.

To transmit an Individual call you must program this directory with information of the persons you wish to call, similar to a cellular phones telephone directory.

1. Press and hold down the CALL MENU key until "**Setup Menu**" appears.
2. Press the ▲/▼ key to select "**DSC SETUP**" menu.
3. Press the [**SELECT**] soft key, then select "**INDIVIDUAL DIRECTORY**" with the ▲/▼ key.
4. Press the [**SELECT**] soft key.
5. Select "**ADD**" with the ▲/▼ key, then press the [**SELECT**] soft key.
6. Press the ▲/▼ key to scroll through the first letter of the name of the vessel or person you want to reference in the directory.
7. Press the [**ENT**] soft key to store the first letter in the name and step to the next letter to the right.
8. Repeat step 6 and 7 until the name is complete. The name can consist of up to eleven characters, if you do not use all eleven characters press the [**ENT**] soft key to move to the next space. This method can also be used to enter a blank space in the name. If a mistake was made entering in the name repeat pressing the [**BACK**] soft key until the wrong character is selected, then press the ▲/▼ key to correct the entry.
9. After the eleventh letter or space has been entered, press and hold the [**ENT**] soft key to advance to the MMSI (Maritime Mobile Service Identity Number) number entry.
10. Press the ▲/▼ key to scroll through numbers, 0-9. To enter the desired number and move one space to the right by pressing the [**ENT**] soft key. Repeat this procedure until all nine space of the MMSI number are entered.
11. If a mistake was made entering in the MMSI number repeat pressing the [**BACK**] soft key until the wrong number is selected, then rotate the **CHAN-**

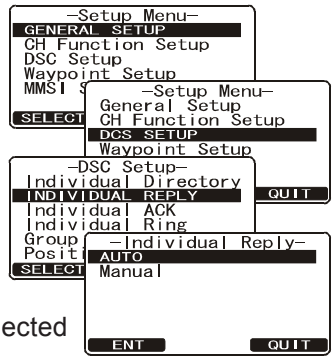


NEL knob to correct the entry.

12. To store the data entered, press and hold the [**ENT**] soft key.
13. To enter another individual address, repeat steps 5 through 12.
14. Press the [**QUIT**] soft key several times to return to radio operation.

15.2 INDIVIDUAL REPLY

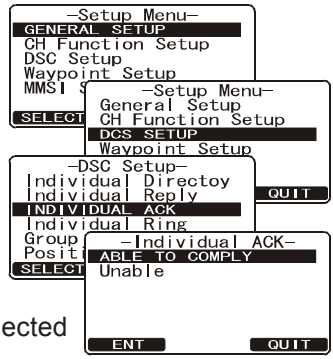
This menu item sets up the radio to automatically (default setting) or manually respond to a DSC Individual call requesting you to switch to a working channel for voice communications. When Manual is selected the MMSI of the calling vessel is shown allowing you to see who is calling. This function is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



1. Press and hold down the CALL MENU key until "**Setup Menu**" appears.
2. Press the ▲/▼ key to select "**DSC SETUP**" menu.
3. Press the [**SELECT**] soft key, then select "**INDIVIDUAL REPLY**" with the ▲/▼ key.
4. Press the [**SELECT**] soft key.
5. Press the ▲/▼ key to select "**AUTOMATIC**" or "**MANUAL**".
6. Press the [**SELECT**] soft key to store the selected setting.
7. Press the [**QUIT**] soft key several times to return to radio operation.

15.3 INDIVIDUAL ACKNOWLEDGMENT

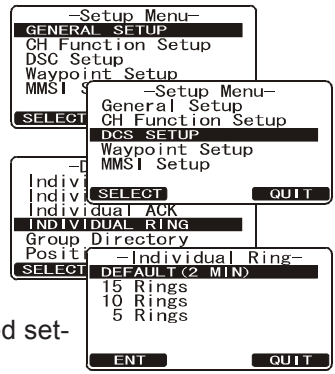
The radio can be setup to transmit a reply automatically (default) or set so the radio will not reply to an individual call.



1. Press and hold down the CALL MENU key until "**Setup Menu**" appears.
2. Press the ▲/▼ key to select "**DSC SETUP**" menu.
3. Press the [**SELECT**] soft key, then select "**INDIVIDUAL ACK**" with the ▲/▼ key.
4. Press the [**SELECT**] soft key.
5. Press the ▲/▼ key to select "**ABLE TO COMPLY**" or "**UNABLE**".
6. Press the [**SELECT**] soft key to store the selected setting.
7. Press the [**QUIT**] soft key several times to return to radio operation.

15.4 INDIVIDUAL RINGER

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



1. Press and hold down the CALL MENU key until "**Setup Menu**" appears.
2. Press the ▲/▼ key to select "**DSC SETUP**" menu.
3. Press the [**SELECT**] soft key, then select "**INDIVIDUAL RING**" with the ▲/▼ key.
4. Press the [**SELECT**] soft key.
5. Rotate the **CHANNEL** knob to select ringing time of a Individual Call.
6. Press the [**ENT**] soft key to store the selected setting.
7. Press the [**QUIT**] soft key several times to return to radio operation.

15.5 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. To understand Group MMSI programming, first a Ship MMSI has to be understood.

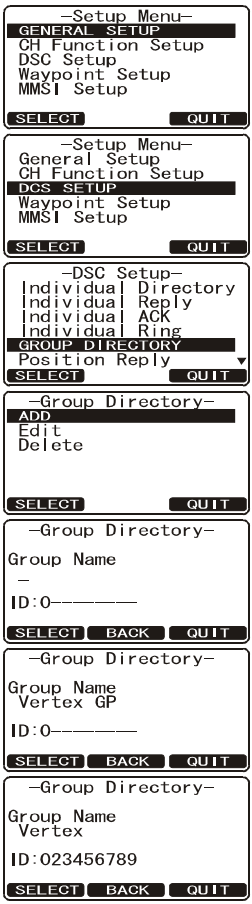
Ship MMSI: The first three digits called a MID (Mobile Identity Group) of a Ship MMSI denote the country the ship registered for a MMSI. The last 6 digits are specific to the Ships ID.
Ship MMSI Example: If your MMSI is "366123456", "366" is MID which denote the country and "123456" is your ships MMSI.

Group MMSI:

- ❒ Group MMSI numbers are not assigned by the FCC or other organizations licensed to assign ship MMSI numbers.
- ❒ The first digit of a Group MMSI is always set to "0" by International rules. All Standard Horizon radios are preset so when programming a Group MMSI the first digit is set to "0".
- ❒ The USCG recommends programming the MID of a ships MMSI into the Second, Third and Fourth digits of the Group MMSI as it denotes the area the ship is located in.
- ❒ The last 5 digits are decided upon by persons in the Group. This is an important step as all radios in the Group must contain the same Group MMSI so they can be contacted by each other. There is a chance that

another group of vessels may program in the same Group MMSI. If this happens, simply change one or more of the last 5 digits of the Group MMSI.

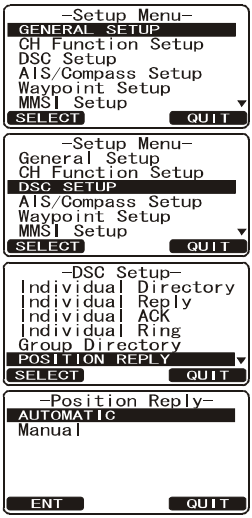
1. Press and hold down the CALL MENU key until "**Setup Menu**" appears.
2. Press the ▲/▼ key to select "**DSC SETUP**" menu.
3. Press the [**SELECT**] soft key, then select "**GROUP DIRECTORY**" with the ▲/▼ key.
4. Press the [**SELECT**] soft key, then select "**ADD**" with the ▲/▼ key.
5. Press the [**SELECT**] soft key.
6. Press the ▲/▼ key to scroll through the first letter of the name of the group you want to reference in the directory.
7. Press the [**SELECT**] soft key to store the first letter in the name and step to the next letter to the right.
8. Repeat step 6 and 7 until the name is complete. The name can consist of up to eleven characters, if you do not use all eleven characters press the [**SELECT**] soft key to move to the next space. This method can also be used to enter a blank space in the name. If a mistake was made entering in the name repeat pressing the [**BACK**] soft key until the wrong character is selected, then press the ▲/▼ key to correct the entry.
9. After the eleventh letter or space has been entered, press and hold the [**SELECT**] soft key to advance to the GROUP MMSI (Maritime Mobile Service Identity Number) number entry.



10. Press the ▲/▼ key to select the second number of the MMSI (nine digits: first digit permanently set to "0") which you want to contact, then press the [**SELECT**] soft key to step to the next number. Repeat this procedure until all eight space of the MMSI number are entered.
11. If a mistake was made entering in the MMSI number repeat pressing the [**BACK**] soft key until the wrong number is selected, then press the ▲/▼ key to correct the entry.
12. To store the data entered, press and hold the [**SELECT**] soft key.
13. To enter another group address, repeat steps 5 through 12.
14. Press the [**QUIT**] soft key several times to return to radio operation.

15.6 POSITION REPLY

The **GX1600** 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 or persons name shown on the display allowing you to choose to send your position to the requesting vessel.

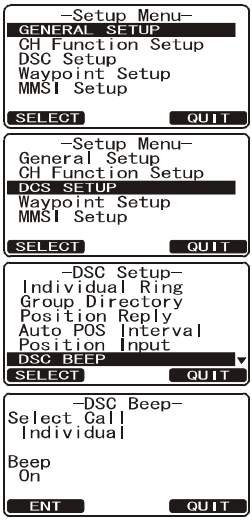


1. Press and hold down the CALL/MENU key until "**Setup Menu**" appears.
2. Press the ▲/▼ key to select "**DSC SETUP**" menu.
3. Press the [**SELECT**] soft key, then select "**POSITION REPLY**" with the ▲/▼ key.
4. Press the [**SELECT**] soft key, then select "**AUTOMATIC**" or "**MANUAL**". In "**AUTOMATIC**" mode, after a DSC POS Request is received, the radio will automatically transmit your vessels position. In "**MANUAL**" mode, the display of the **GX1600** will show who is requesting the position and the YES soft key on radio has to be pressed to send your position to the requesting.
5. Press the [**ENT**] soft key to store the selected setting.
6. Press the [**QUIT**] soft key several times to return to radio operation.

15.7 DSC BEEP

This feature allows the alarm beeps to be turned on (default setting) or off when a DSC call is received. The DSC calls that can be customized are: Individual, Group, All Ships, Position Request, Position Report, Geographic Call using the procedure below:

1. Press and hold down the CALL MENU key until "**Setup Menu**" appears.
2. Press the ▲/▼ key to select "**DSC SETUP**" menu.
3. Press the [**SELECT**] soft key, then select "**DSC BEEP**" with the ▲/▼ key.
4. Press the [**SELECT**] soft key, then press the ▲/▼ key to the desired DSC call type and press the [**ENT**] soft key.
5. Press the ▲/▼ key to turn "**On**" or "**Off**" the DSC beep and press the [**ENT**] soft key.
6. Press the [**QUIT**] soft key several times to return to radio operation.



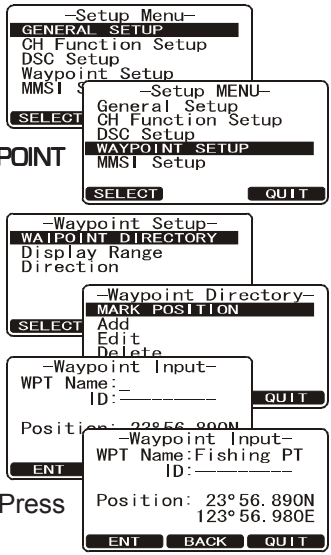
16 WAYPOINTS

The **GX1600** is capable of storing up to 100 waypoint and navigating to them using the compass page.

In addition DSC distress calls with position or a position received from a another DSC radio using DSC polling can be navigated to.

16.1 MARKING A POSITION

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

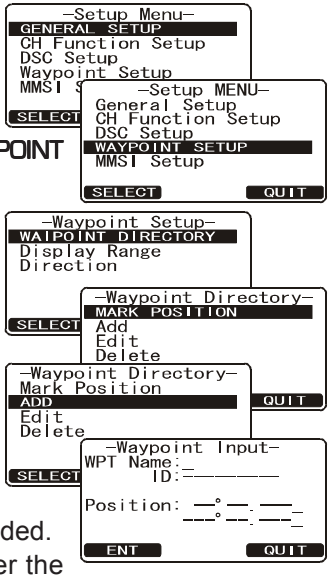


1. Press and hold down the CALL MENU key until "**Setup Menu**" appears.
2. Press the ▲/▼ key to select "**WAYPOINT SETUP**".
3. Press the [**SELECT**] soft key, then select "**WAYPOINT DIRECTORY**" with the ▲/▼ key.
4. Press the [**SELECT**] soft key, then select "**MARK POSITION**" with the ▲/▼ key.
5. Press the [**SELECT**] soft key, then enter the Waypoint Name, by pressing the ▲/▼ key to select the first letter.
6. Press the [**ENT**] soft key to store the first letter and to move to the second letter in the name.
7. Repeat step 5 and 6 until the name is shown. Press the [**ENT**] soft key to skip a letter if needed.
8. Press and hold the [**ENT**] soft key two times to save the waypoint into memory.
9. Press the [**QUIT**] soft key several times to return to radio operation.

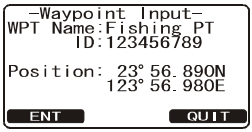
NOTE

If you assign the "Mark" function to the Soft key, you may recall the "Waypoint Input" directly by pressing the [**ENT**] soft key.

16.2 ADDING A WAYPOINT



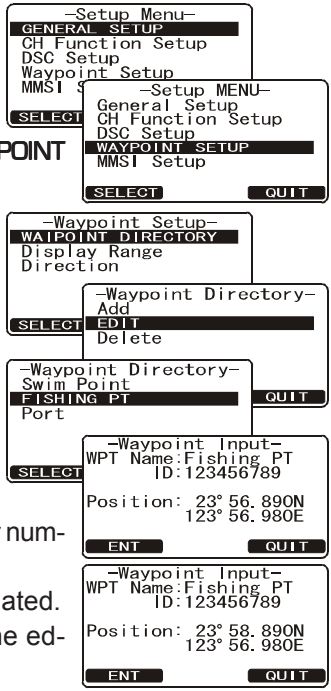
1. Press and hold down the CALL MENU key until "**Setup Menu**" appears.
2. Press the ▲/▼ key to select "**WAYPOINT SETUP**".
3. Press the [**SELECT**] soft key, then select "**WAYPOINT DIRECTORY**" with the ▲/▼ key.
4. Press the [**SELECT**] soft key, then select "**ADD**" with the ▲/▼ key.
5. Press the [**SELECT**] soft key.
6. Enter the Waypoint Name, by pressing the ▲/▼ key to select the first letter.
7. Press the [**ENT**] soft key to store the first letter and to move to the second letter in the name.
8. Repeat step 5 and 6 until the name is shown. Press the [**ENT**] soft key to skip a letter if needed.
9. Press and hold the [**ENT**] soft key, then enter the coordinates of the waypoint POSITION, by pressing the ▲/▼ key to select the first digit in the Latitude.
10. Press the [**ENT**] soft key to store the first number and to move to the second number in the position.
11. Repeat step 9 and 10 until the latitude is shown include N or S in the last digit.
12. Press the [**ENT**] soft key to select the first digit of the Longitude is blinking.
13. Press the ▲/▼ key to select the first digit in the Longitude.
14. Press the [**ENT**] soft key to store the first number and to move to the second number in the position.
15. Repeat step 13 and 14 until the Latitude is shown include E or W in the last digit.
16. After all information is entered, press and hold the [**ENT**] soft key to store the waypoint into memory.
17. Press the [**QUIT**] soft key several times to return to radio operation.



16.3 EDITING A WAYPOINT

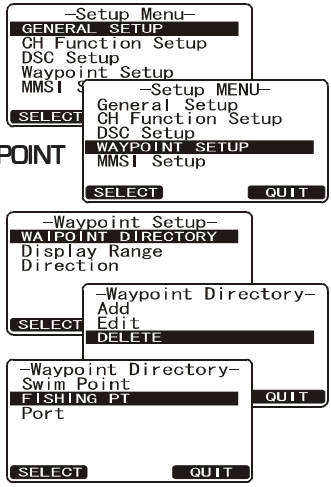
This function allows a previously entered waypoint to be edited.

1. Press and hold down the CALL MENU key until "**Setup Menu**" appears.
2. Press the ▲/▼ key to select "**WAYPOINT SETUP**".
3. Press the [**SELECT**] soft key, then select "**WAYPOINT DIRECTORY**" with the ▲/▼ key.
4. Press the [**SELECT**] soft key, then select "**EDIT**" with the ▲/▼ key.
5. Press the ▲/▼ key to select the waypoint to be edited.
6. Press the [**ENT**] soft key to show the waypoint Input display.
7. Press the [**ENT**] soft key repeatedly until the number or letter is selected that is to be changed.
8. Press the ▲/▼ key to change the letter or number.
9. Repeat step 7 and 8 until the waypoint is updated.
10. Press and hold the [**ENT**] soft key to store the edited waypoint into memory.
11. Press the [**QUIT**] soft key several times to return to radio operation.



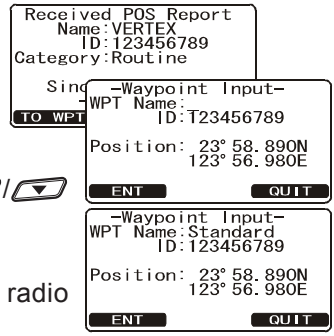
16.4 DELETING A WAYPOINT

1. Press and hold down the CALL MENU key until "**Setup Menu**" appears.
2. Press the ▲/▼ key to select "**WAYPOINT SETUP**".
3. Press the [**SELECT**] soft key, then select "**WAYPOINT DIRECTORY**" with the ▲/▼ key.
4. Press the [**SELECT**] soft key, then select "**DELETE**" with the ▲/▼ key.
5. Press the ▲/▼ key to highlight the waypoint to be deleted.
6. Press and hold the [**ENT**] soft key until the radio beeps and the waypoint directory is removed from the display.
7. Press the [**QUIT**] soft key several times to return to radio operation.



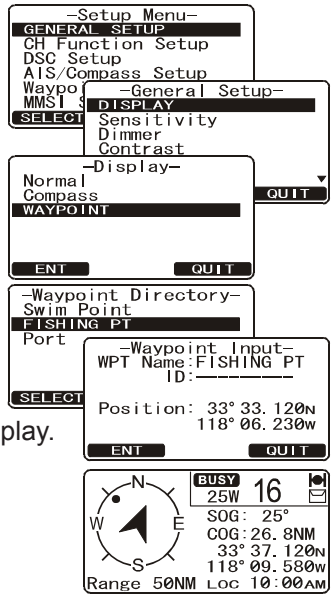
16.5 SAVING A DSC POSITION CALL AS A WAYPOINT

When a position is received from a another DSC radio the **GX2000/GX2100** allows the position to be saved as a waypoint.



1. After a position has been received, press the [**SAVE**] soft key two times.
2. The first digit in the WPT Name will be flashing, press the ▲/▼ key to the first letter of the name you want to input.
3. Press the [**ENT**] soft key, then press the ▲/▼ key to select the second letter in the name.
4. Repeat step 3 until the name is shown.
5. Press and hold the [**ENT**] soft key until the radio beeps to save the waypoint to memory.
6. Press the [**QUIT**] soft key several times to return to radio operation.

16.6 NAVIGATING TO A SAVED WAYPOINT



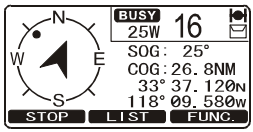
1. Press and hold down the CALL MENU key until "**Setup Menu**" appears.
2. Press the ▲/▼ key to select "**GENERAL SETUP**".
3. Press the [**SELECT**] soft key, then select "**DISPLAY**" with the ▲/▼ key.
4. Press the [**ENT**] soft key, and select "**WAYPOINT**", and press the [**SELECT**] soft key.
5. Select the waypoint name and press the [**ENT**] soft key to show the waypoint data display.
6. Press the [**ENT**] soft key to start navigating the waypoint and show the Waypoint Nav display.

NOTE

The radio must be connected to a GPS to be able to navigate to a waypoint.

16.7 STOP NAVIGATING TO A WAYPOINT

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

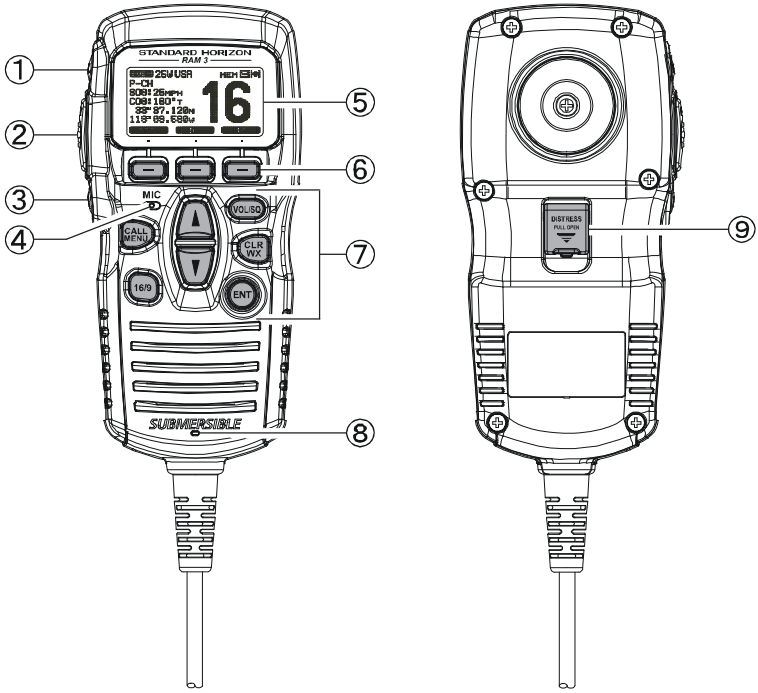


MEMO

17 CMP30 (RAM3) REMOTE MIC OPERATION

When the Remote MIC is connected to the **GX1600**, all VHF, DSC, setup menus, AIS, Waypoint, Compass functions and PA/Fog modes can be remotely operated. The **CMP30**'s operation is same as **GX1600** except the receiver audio volume setting and squelch level setting. The reason for the same operation is to make the operation of the radio and **CMP30** mic easy. For specific operation of the **CMP30** mic review sections in the radio manual. The **CMP30** is supplied with 23 feet (7 m) of routing cable and can be extended up to 70 feet (21 m) using three 23-foot extension cables model **CT-100**. The Intercom feature can be used between the **CMP30** and the **GX1600**. In addition, speaker wires are supplied at the panel mount of the routing cable for external speakers to be connected in noisy environments.

17.1 REMOTE MIC CONTROLS



① **[H/L] KEY**

Toggles between high and low power. When the **[H/L]** key is pressed while the transceiver is on CH13 or CH67, the power is temporarily switched from LO to HI until the **PTT** switch is released. The **[H/L]** key does not function on transmit inhibited and low-power only channels.

② **PTT** (**Push-To-Talk**) **Key**
Push this key to enable the transmitter.

③ **POWER** (⏻) **Key**
Press and hold down this key to turn the transceiver and Remote MIC on or off.

④ **MICROPHONE**
The internal ClearVoice Noise Canceling mic is located here..
When transmitting, position your mouth about 1/2 to 1 inch (1.2 ~ 2.5 cm) away from the small mic hole. Speak slowly and clearly into the microphone.

⑤ **DISPLAY**
Full dot matrix display.

⑥ **SOFT KEY**
These three key's functions can be customized by the Setup Menu mode. When press one of these key briefly, the key functions will appear at the bottom of the display. Refer to section "**17.2 ASSIGNING SOFT KEYS**" for details.

⑦ **KEY PAD**
[**CALL/MENU**] Key
Press this key to access the DSC menu.
Press and hold this key to access the SETUP menu.

[**16/9**] Key
First press: channel 16 is immediately selected.
Second press: recalls the last selected channel.
Press and hold: selects channel 9.

[▲](**UP**)/[▼](**DOWN**) Key
These keys are used to select channels, adjust the volume and squelch level, and to choose DSC calls, DSC setup and Radio setup function.

[**VOL/SQ**] Key (Volume Control / Squelch Control)
First press: Volume adjustment mode
Second press: Squelch adjustment mode
Third press: exits adjustment mode
When in volume or squelch mode, press the [▲] or [▼] keys to adjust the level.

[**CLR/WX**] Key

Press to CLEAR a function or menu selection. Press and hold to select NOAA Weather channels. Press and hold again to exit Weather mode and revert to radio mode.

Secondary use

Hold down the [**16/9**] key while pressing the [**WX**] key to change the mode from USA to International or Canadian.

[**ENT**] Key

This key functions as the enter key.

⑧ **SPEAKER**

The internal speaker is located here.

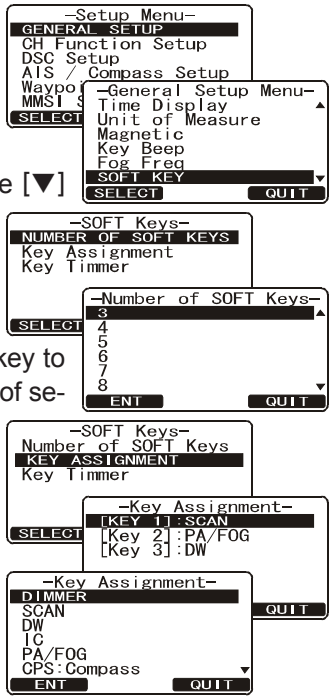
⑨ [**DISTRESS**] **KEY**

Used to send a DSC Distress call. Refer to section "**11 DIGITAL SELECTIVE CALLING**".

17.2 ASSIGNING SOFT KEYS

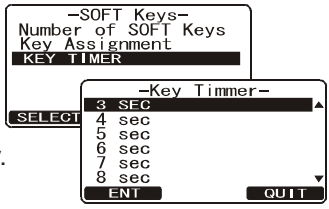
This menu item allows selection of the number of soft keys, soft key selection and how long the display will show the soft key icon after a soft key is pressed. The keys maybe setup to control the following functions:

1. Press and hold down the [**CALL/MENU**] key until "**Setup Menu**" appears, then select "**GENERAL SETUP**" with the [▲] or [▼] key.
2. Press the [**SELECT**] soft key, then press the [▼] key to select "**SOFT KEY**".
3. Press the [**SELECT**] soft key, then press the [▼] key to select "**NUMBER OF SOFT KEYS**".
4. Press the [**SELECT**] soft key, then press the [▲] or [▼] key to select the number of soft keys (3 through 10).
5. Press the [**ENT**] soft key, then press the [▼] key to select "**KEY ASSIGNMENT**" (to change the use of selected soft keys). Then press the [**SELECT**] soft key.
6. Press the [▲] or [▼] key to select the key ("**KEY1**", "**KEY2**", "**KEY3**" etc), and press the [**SELECT**] soft key. Then press the [▲] or [▼] key to select the new function to be assigned, and press the [**ENT**] soft key. Available functions are listed next page. Repeat step 6 to



program the other soft keys.

7. Press the [**QUIT**] soft key, then press the [▲] or [▼] key to select "**KEY TIMER**" (selects how long the soft key icon will be shown on the display after a soft key is pressed, default is 5 seconds). Then, press the [**SELECT**] soft key.
8. Press the [▲] or [▼] key to select the time.
9. Press the [**ENT**] soft key to store the selected setting.
10. Press the [**QUIT**] soft key several times to return to radio operation.



DISPLAY	FUNCTION
SCAN	Starts and stops Scanning.
DW	Starts and stops Dual Watch Scan.
IC	Activates Intercom between radio and **RAM3** mic (optional **RAM3** required).
CMP: COMPASS	Shows to the "Compass" display.
WPT	Shows to the "Waypoint" Navigation display.
PRESET	Porgrams or deletes the preset memory channel.
WX	Immediately recalls the last select the weather channel.
MARK	Marks the current position for the "Waypoint".
PRESET 0 - 9	Immediately recalls the preset memory channel.

18 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.

- Keep the microphone connected or the jack covered at all times to prevent corrosion of electrical contacts;
- 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.

In the unlikely event of serious problems, please contact your Dealer or our repair facility. Address and phone numbers for this facility, as well as warranty information, are contained in section "**19 WARRANTY**."

18.1 REPLACEMENT PARTS

Occasionally an owner needs a replacement mounting bracket or knob. These can be ordered from our Parts Department by writing or calling:

Marine Division of Vertex Standard
US Headquarters
10900 Walker Street, Cypress, CA 90630, U.S.A.
Telephone (714) 827-7600

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

- **Power Cord**: T9025406
- **Panel Cover**: RA1298700
- **VOL and SQL Knob**: RA1282500 (White), RA1282600 (Black)
- **Mounting Bracket**: RA1283100 (White), RA1283200 (Black)
- **Mounting Bracket Knob**: RA0978500 (White), RA0978600 (Black)
- **Microphone Hanger**: RA0436000 (White), RA0458800 (Black)
- **RAM3 Mic Routing Cable Assembly**: S8101512

18.2 FACTORY SERVICE

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

Standard Horizon
Attention Marine Repair Department
10900 Walker Street, Cypress, CA 90630
Telephone (800) 366-4566

An “RA” Return Authorization number is not necessary to send a product in for service. Include a brief note describing the problem along with your name, return address, phone number, and proof of purchase.

18.3 TROUBLESHOOTING CHART

SYMPTOM	PROBABLE CAUSE	REMEDY
Transceiver fails to power up.	No DC voltage to the transceiver, or blown fuse.	a. Check the 12VDC battery connections and the fuse. 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 250V). 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.	Reroute 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 (Short Circuit the External speaker cable WHITE/SHIELD).
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 not 17 volts or lower than 10 volts.
Your position is not displayed.	Accessory cable.	Check the accessory cable connection. Some GPS use the battery ground line for NMEA connection.
	Setting of the GPS navigation receiver.	Check the output signal format of the GPS navigation receiver. This radio requires NMEA0183 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.

19 CHANNEL ASSIGNMENTS

Tables on the following columns list the VHF Marine Channel assignments for U.S.A. and International use. Below are listed some data about the charts.

1. VTS. Where indicated, these channels are part of the U.S. Coast Guard's Vessel Traffic System.
2. Alpha channel numbers, that is, channel numbers followed by the letter A (such as Channel 07**A**) are ***simplex*** channels on the U.S.A. or Canadian channel assignments whose counterparts in the International assignments are ***duplex*** channels. International channels do not use "alpha" numbers. If you call the Coast Guard on Channel 16, they will sometimes ask you to "***go to channel 22 Alpha***." This is a channel assigned to U.S.A, and Canadian Coast Guards for handling distress and other calls. If your radio is set for ***International*** operation you will go to Channel 22 instead of 22**A**, and will not be able to communicate with the Coast Guard. To use Channel 22**A**, your radio must be set for ***USA*** or ***Canada*** operation, usually by a U/I/C (USA/International/Canada) control or combination of controls. Channel 22 (without an "A") is an ***International*** duplex channel for port operations. Some radios indicate an "A" adjacent to the alpha channels on the display; on others "alpha" is not indicated but the proper channel is selected based on the U/I/C setting.
3. Bridge-to-Bridge channels (for example, Channel 13) are for use by bridge operators on inter-coastal waterways and rivers. It is also used by marine vessels in the vicinity of these bridges for navigation and for communicating with the bridge operators. Note that a limit of 1 Watt is specified for these channels.
4. The **S/D** column on the chart indicates either S (simplex) or D (duplex). ***Simplex*** means transmitting and receiving on the same frequency. Only one party at a time can talk, unlike a telephone. Be sure to say "***over***" and release your microphone push-to-talk switch at the end of each transmission. ***Duplex*** operation involves the use of one frequency for transmitting and a separate frequency for receiving. On channels specified as duplex on the charts, correct mode of operation is established automatically by your radio when you select a channel; you cannot change the mode. And you still must release the push-to-talk switch after each transmission in order to listen to the radio.
5. Channels normally used by recreational boaters are those that include the term "non-commercial" in the ***Channel Use*** column of the chart. Some of these are shared with other users and some are used only in certain geographic regions.

6. Marine vessels equipped with VHF radios are required to monitor Channel 16.
7. 156.050 MHz and 156.175 MHz are available for port operations and commercial communications purposes when used only within the U.S. Coast Guard designated Vessel Traffic Services (VTS) area of New Orleans, on the lower Mississippi River from the various pass entrances in the Gulf of Mexico to Devil's Swamp Light at River Mile 242.4 above head of passes near Baton Rouge.
8. 156.250 MHz is available for port operations communications use only within the U.S. Coast Guard designated VTS radio protection areas of New Orleans and Houston described in Sec. 80.383. 156.250 MHz is available for intership port operations communications used only within the area of Los Angeles and Long Beach harbors, within a 25- nautical mile radius of Point Fermin, California.
9. 156.550 MHz, 156.600 MHz and 156.700 MHz are available in the U.S. Coast Guard designated port areas only for VTS communications and in the Great Lakes available primarily for communications relating to the movement of ships in sectors designated by the St. Lawrence Seaway Development Corporation or the U.S. Coast Guard. The use of these frequencies outside VTS and ship movement sector protected areas is permitted provided they cause no interference to VTS and ship movement communications in their respective designated sectors.
10. Use of 156.875 MHz is limited to communications with pilots regarding the movement and docking of ships. Normal output power must not exceed 1 watt. 5: 156.375 MHz and 156.650 MHz are available primarily for intership navigational communications. These frequencies are available between coast and ship on a secondary basis when used on or in the vicinity of locks or drawbridges. Normal output power must not exceed 1 watt. Maximum output power must not exceed 10 watts for coast stations or 25 watts for ship stations.
11. On the Great Lakes, in addition to bridge-to-bridge communications, 156.650 MHz is available for vessel control purposes in established vessel traffic systems. 156.650 MHz is not available for use in the Mississippi River from South Pass Lighted Whistle Buoy "2" and Southwest Pass entrance Mid-channel Lighted Whistle Buoy to mile 242.4 above Head of Passes near Baton Rouge. Additionally it is not available for use in the Mississippi River-Gulf Outlet, the Mississippi River-Gulf Outlet Canal, and the Inner Harbor Navigational Canal, except to aid the transition from these areas.

12. Use of 156.375 MHz is available for navigational communications only in the Mississippi River from South Pass Lighted Whistle Buoy “2” and Southwest Pass entrance Mid channel Lighted Whistle Buoy to mile 242.4 above head of Passes near Baton Rouge, and in addition over the full length of the Mississippi River-Gulf Outlet Canal from entrance to its junction with the Inner Harbor Navigation Canal, and over the full length of the Inner Harbor Navigation Canal from its junction with the Mississippi River to its entry to Lake Pontchartrain at the New Seabrook vehicular bridge.
13. Within 120 km (75 miles) of the United States/Canada border, in the area of the Puget Sound and the Strait of Juan de Fuca and its approaches, 157.425 MHz is half of the duplex pair designated as Channel 88. In this area, Channel 88 is available to ship stations for communications with public coast stations only. More than 120 km (75 miles) from the United States/Canada border in the area of the Puget Sound and the Strait of Juan de Fuca, its approaches, the Great Lakes, and the St. Lawrence Seaway, 157.425 MHz is available for intership and commercial communications. Outside Puget Sound area and its approaches and the Great Lakes, 157.425 MHz is also available for communications between commercial fishing vessels and associated aircraft while engaged in commercial fishing activities.
14. When the frequency 156.850 MHz is authorized, it may be used additionally for search and rescue training exercises conducted by state or local governments.
15. The frequency 156.850 MHz is additionally available to coast stations on the Great Lakes for transmission of scheduled Coded Marine Weather Forecasts (MAFOR), Great Lakes Weather Broadcast (LAWEB) and scheduled Notices to Mariners or Bulletins. F3C and J3C emissions are permitted. Coast Stations on the Great Lakes must cease weather broadcasts which cause interference to stations operating on 156.800 MHz until the interference problem is resolved.
16. The frequency 157.100 MHz is authorized for search and rescue training exercises by state or local government in conjunction with U.S. Coast Guard stations. Prior U.S. Coast Guard approval is required. Use must cease immediately on U.S. Coast Guard request.
17. The duplex pair for channel 20 (157.000/161.600 MHz) may be used for ship to coast station communications.
18. Available for assignment to coast stations, the use of which is in accord with an agreed program, for the broadcast of information to ship stations concerning the enviro.

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)
01A	X			S	156.050		Port Operation and Commercial. 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)
03A	**X**			**S**	**156.150**		**U.S. Government Only, Coast Guard**
04			X	D	156.200	160.800	Public Correspondence (Marine Operator), Port operation, ship movement
04A		X		S	156.200		Pacific coast: Coast Guard, East Coast: Commercial fishing
05			X	D	156.250	160.850	Public Correspondence (Marine Operator), Port operation, ship movement
05A	X	X		S	156.250		Port operation. VTS in Seattle
06	X	X	X	S	156.300		Inter-ship Sefety
07			X	D	156.350	160.950	Public Correspondence (Marine Operator), Port operation, ship movement
07A	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 & 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			S	- - -	156.750	Environmental (Receive only)
15		X	X	S	156.750		Commercial, non-commercial, ship movement (1 W)
16	X	X	X	S	156.800		International Distress, Safety and Calling
17	X	X	X	S	156.850		State Controlled (1 W)
18			X	D	156.900	161.500	Port operation, ship movement
18A	X	X		S	156.900		Commercial
19			X	D	156.950	161.550	Port operation, ship movement
19A	X			S	156.950		US: Commercial
19A		X		S	156.950		Coast Guard
20	X	X	X	D	157.000	161.600	Canadian Coast Guard Only, International: port operations and shipment
20A	X			S	157.000		Port operation
21			X	D	157.050	161.650	Port operation, ship movement
21A	**X**	**X**		**S**	**157.050**		**U.S. Government Only, Canadian Coast Guard**
22			X	D	157.100	161.700	Port operation, ship movement
22A	X	X		S	157.100		US and Canadian Coast Guard Liaison and Maritime Safety Information Broadcasts announced on channel 16
23		X	X	D	157.150	161.750	Public Correspondence (Marine Operator)
23A	**X**			**S**	**157.150**		**U.S. Government Only**
24	X	X	X	D	157.200	161.800	Public Correspondence (Marine Operator)
25	X	X	X	D	157.250	161.850	Public Correspondence (Marine Operator)
26	X	X	X	D	157.300	161.900	Public Correspondence (Marine Operator)
27	X	X	X	D	157.350	161.950	Public Correspondence (Marine Operator)
28	X	X	X	D	157.400	162.000	Public Correspondence (Marine Operator)

VHF MARINE CHANNEL CHART							
CH	**U**	**C**	**I**	**S/D**	**TX**	**RX**	**CHANNEL USE**
60		X	X	D	156.025	160.625	Public Correspondence (Marine Operator)
61			X	D	156.075	160.675	Public Correspondence (Marine Operator), Port operation, ship movement
61A	**X**	**X**		**S**	**156.075**		**Public Coast: Coast Guard; East Coast: commercial fishing only**
62			X	D	156.125	160.725	Public Correspondence (Marine Operator), Port operation, ship movement
62A		X		S	156.125		Public Coast: Coast Guard; East Coast: commercial fishing only
63			X	D	156.175	160.775	Public Correspondence (Marine Operator), Port operation, ship movement
63A	X	X		S	156.175		Port Operation and Commercial. VTS in selected areas.
64		X	X	D	156.225	160.825	Public Correspondence (Marine Operator), Port operation, ship movement
64A	**X**	**X**		**S**	**156.225**		**Public Correspondence (Marine Operator), Port operation, ship movement**
65			X	D	156.275	160.875	Public Correspondence (Marine Operator), Port operation, ship movement
65A	X	X		S	156.275		Port Opeations
66			X	D	156.325	160.925	Public Correspondence (Marine Operator), Port operation, ship movement
66A	X	X		S	156.325		Port Operations
67	X	X	X	S	156.375		US: Commercial. Used for Bridge-to-bridge com muni-cations in lower Mississippi River. Inter-ship only, 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), Canada: Commercial fishing only, International: Inter-ship, Port opertions and Ship movement
70	X	X	X	S	156.525		Digital selective calling (voice communications not allowed)
71	X	X	X	S	156.575		US, Canada: Non-commercial (Recreational), International: Port opertions 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, Canada: Commercial fish ing only, International: Inter-ship, Port opertions and Ship movement
74	X	X	X	S	156.725		US: Port Operations, Canada: Commercial fishing only, International: Inter-ship, Port opertions 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), Port operation, ship-movement
78A	X	X		S	156.925		Non-commercial (Recreational)
79			X	D	156.975	161.575	Port operation and Ship movement
79A	X	X		S	156.975		Commercial

VHF MARINE CHANNEL CHART							
CH	**U**	**C**	**I**	**S/D**	**TX**	**RX**	**CHANNEL USE**
80			X	D	157.025	161.625	Port operation, ship movement
80A	X	X		S	157.025		Commercial
81			X	D	157.075	161.675	Port operation, ship movement
81A	**X**			**S**	**157.075**		**U.S. Government Only - Environmental protection operations.**
81A		X		S	157.075		Canadian Coast Guard Only
82			X	D	157.125	161.725	Public Correspondence (Marine Operator), Port operation, ship movement
82A	**X**	**X**		**S**	**157.125**		**U.S. Government Only, Canadian Coast Guard Only**
83		X		D	157.175	161.775	Canadian Coast Guard Only
83			X	D	157.175	161.775	Public Correspondence (Marine Operator)
83A	**X**	**X**		**S**	**157.175**		**U.S. Government Only, Canadian Coast Guard Only**
84	X	X	X	D	157.225	161.825	Public Correspondence (Marine Operator)
85	X	X	X	D	157.275	161.875	Public Correspondence (Marine Operator)
86	X	X	X	D	157.325	161.925	Public Correspondence (Marine Operator)
87		X	X	S	157.375		Port operation, ship movement
87A	X			S	157.375		Public Correspondence (Marine Operator)
88		X	X	S	157.425		Port operation, ship movement
88A	X			S	157.425		Commercial, Inter-ship Only
WX01	X	X	X	D	- - -	162.550	Weather (receive only)
WX02	X	X	X	D	- - -	162.400	Weather (receive only)
WX03	X	X	X	D	- - -	162.475	Weather (receive only)
WX04	X	X	X	D	- - -	162.425	Weather (receive only)
WX05	X	X	X	D	- - -	162.450	Weather (receive only)
WX06	X	X	X	D	- - -	162.500	Weather (receive only)
WX07	X	X	X	D	- - -	162.525	Weather (receive only)
WX08	X	X	X	D	- - -	161.650	Weather (receive only)
WX09	X	X	X	D	- - -	161.775	Weather (receive only)
WX10	X	X	X	D	- - -	163.275	Weather (receive only)

NOTE: Simplex channels, 3A, 21A, 23A, 61A, 64A, 81A, 82A and 83A CANNOT be lawfully used by the general public in U.S.A. waters.

20 WARRANTY

Marine Products Limited Warranty

PLEASE NOTE

The following "Limited Warranty" is for valid for products that have been purchased in the United States and Canada. For limited Warranty details outside the United States, contact the dealer in your country.

STANDARD HORIZON (a division of VERTEX STANDARD) warrants, to the original purchaser only, each new Marine Communications Product ("Product") manufactured and/or supplied by STANDARD HORIZON against defects in materials and workmanship under normal use and service for a period of time from the date of purchase as follows:

Fixed Mount and Portable Transceivers

1 year - if purchased before 01/01/91

3 years - if purchased between 01/01/91 and 01/01/94

3 years Waterproof - if purchased after 01/01/94

Loud hailers

1 year - if purchased before 01/01/91

3 years - if purchased after 01/01/91

Associated Chargers

1 year - if purchased before 01/01/91

3 years - if purchased after 01/01/91

Associated Batteries - 18 months. Note: Batteries will be deemed deflective only if storage capacity drops below 80% of rated capacity or if leakage develops.

Associated Accessories - 1 year. Includes: Microphones/Handsets, External Speakers, Antennas, Carrying Accessories, Power Supplies, and Signaling Boards.

To receive warranty service, the purchaser must deliver the Product, transportation and insurance prepaid, to STANDARD HORIZON (a division of VERTEX STANDARD), Attention Marine repairs 10900 Walker Street, Cypress, CA 90630. Include proof of purchase indicating model. serial number, and date of purchase. STANDARD HORIZON will return the Product to the purchaser freight prepaid. Products purchased prior to January 1, 1991 will bear the STANDARD HORIZON warranty terms in effect prior to that date.

In the event of a defect, malfunction or failure of the Product during the warranty period, STANDARD HORIZON's liability for any breach of contract or any breach of express or implied warranties in connection with the sale of Products shall be limited solely to repair or replacement, at its option, of the Product or part(s) therein which, upon examination by STANDARD HORIZON,

appear to be defective or not up to factory specifications. STANDARD HORIZON may, at its option, repair or replace parts or subassemblies with new or reconditioned parts and subassemblies. Parts thus repaired or replaced are warranted for the balance of the original applicable warranty.

STANDARD HORIZON will not warrant installation, maintenance or service of the Products. In all instances, STANDARD HORIZON's liability for damages shall not exceed the purchase price of the defective Product.

This warranty only extends to Products sold within the 50 States of the United States of America and the District of Columbia.

STANDARD HORIZON will pay all labor to repair the product and replacement parts charges incurred in providing the warranty service except where purchaser abuse or other qualifying exceptions exist. The purchaser must pay any transportation expenses incurred in returning the Product to STANDARD HORIZON for service.

This limited warranty does not extend to any Product which has been subjected to misuse, neglect, accident, incorrect wiring by anyone other than STANDARD HORIZON, improper installation, or subjected to use in violation of instructions furnished by STANDARD HORIZON, nor does this warranty extend to Products on which the serial number has been removed, defaced, or changed. STANDARD HORIZON cannot be responsible in any way for ancillary equipment not furnished by STANDARD HORIZON which is attached to or used in connection with STANDARD HORIZON's Products, or for the operation of the Product with any ancillary equipment, and all such equipment is expressly excluded from this warranty. STANDARD HORIZON disclaims liability for range, coverage, or operation of the Product and ancillary equipment as a whole under this warranty. STANDARD HORIZON reserves the right to make changes or improvements in Products, during subsequent production, without incurring the obligation to install such changes or improvements on previously manufactured Products.

The implied warranties which the law imposes on the sale of this Product are expressly LIMITED, in duration, to the time period specified above. STANDARD HORIZON shall not be liable under any circumstances for consequential damages resulting from the use and operation of this Product, or from the breach of this LIMITED WARRANTY, any implied warranties, or any contract with STANDARD HORIZON. IN CONNECTION WITH THE SALE OF ITS PRODUCTS, STANDARD HORIZON MAKES NO WARRANTIES, EXPRESS OR IMPLIED AS TO THE MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, EXCEPT AS EXPRESSLY SET FORTH HEREIN.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitation on how long an implied warranty lasts, so the above limitations or exclusions may not apply. This warranty gives specific legal rights, and there may be other rights which may vary from state to state.

ONLY PRODUCTS SOLD ON OR AFTER JANUARY 1, 1991 ARE COVERED UNDER THE TERMS OF THIS LIMITED WARRANTY.

ON-LINE WARRANTY REGISTRATION

THANK YOU for buying STANDARD HORIZON (a division of Vertex Standard) products! We are confident your new radio will serve your needs for many years!

Please visit **www.standardhorizon.com** to register your Marine VHF. It should be noted that visiting the Web site from time to time may be beneficial to you, as new products are released they will appear on the STANDARD HORIZON Web site. Also a statement regarding product support should be added to the manual.

Product Support Inquiries

If you have any questions or comments regarding the use of the radio, you can visit the STANDARD HORIZON Web site to send an E-Mail or contact the Product Support team at (714) 827-7600 ext 6300 M-F 7:00-5:00PST.

In addition to the warranty, STANDARD HORIZON includes a lifetime “flat rate” and “customer loyalty” programs to provide service after the warranty period has expired. If you wish to obtain the flat rate price for out-of-warranty repair, you must include the information on the Owner’s Record with the unit when you return it to your Dealer or to STANDARD HORIZON.

Lifetime Flat Rate Service Program: For the original Owner only, for the lifetime of the unit, STANDARD HORIZON will repair the unit to original specifications.

Note: The flat rate amount is payable by the Owner only if STANDARD HORIZON or the STANDARD HORIZON Dealer determines that a repair is needed. After the repair, a 90-day warranty will be in effect from the date of return of the unit to the Owner.

This service program is not available for equipment which has failed as a result of neglect, accident, breakage, misuse, improper installation or modification, or water damage (depending on the product).

21 RESET PROCEDURES

21.1 MEMORY CLEAR

To clear the Scan memory and Preset memory:

1. Turn the radio off.
2. Press and hold in the three [Programmable] keys while turning the radio on.

21.2 MICROPROCESSOR RESETTING

To clear all memories and other settings to factory defaults (except the Channel Group, MMSI number, and DSC directory information):

1. Turn the radio off.
2. Press and hold in the 16/9 and CALL MENU keys while turning the radio on.

22 SPECIFICATIONS

Performance specifications are nominal, unless otherwise indicated, and are subject to change without notice.

22.1 GENERAL

Channels ..... All USA, International and Canadian
Normal Input Voltage ..... 13.8 V DC
Operating Voltage Range ..... 11 V to 16.5 V
Current Drain
  Standby ..... 0.45 A
  Receiver (at Maximum AF Output) ..... 0.8 A
  Transmit ..... 5.0 A (Hi), 1.0 A (Lo)
Operating Temperature Range ..... –4 °F to +140 °F (–20 °C to +60 °C)
Distress Call Log 27
Individual Call Log 64
Individual Call Directory 80
Group Call Directory 32
Waypoint Directory 100
Display Type ..... 2.75” x 1.33” (70 x 34 mm) Full Dot Matrix (132 x 64 pixels)
Dimensions (WxHxD) ..... 5.90” x 3.35” x 3.54” (150 x 85 x 90 mm)
Flush-Mount Dimensions (WxHxD) . 5.39” x 2.84” x 3.54” (137 x 72 x 90 mm)
Weight ..... 1.98 lbs (0.9 kg)

22.2 TRANSMITTER

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

22.3 RECEIVER (for Voice and DSC)

Frequency Range ..... 156.050 MHz to 163.275 MHz
Sensitivity
- 20 dB Quieting ..... 0.35 µV
- 12 dB SINAD ..... 0.25 µV
- Squelch Sensitivity (Threshold) ..... 0.13 µV

Modulation Acceptance Bandwidth ..... ±7.5 kHz
Selectivity (Typical)
- Spurious and Image Rejection ..... 80 dB for Voice (75 dB for DSC)
- Intermodulation and Rejection ..... 70 dB for Voice (70 dB for DSC)

Audio Output ..... 4.5 W (at 4 ohms external speaker output)
Audio Response ..... within +1/–3dB of a 6 dB/Octave de-enphasis characteristic at 300 to 3000 Hz
Frequency Stability ..... ±0.0003 % (–4 °F to +140 °F [–20 °C to +60 °C])
Channel Spacing ..... 25 kHz
DSC Format ..... ITU-R M.493-12
Antenuator (Local) ..... Approx. 10 dB

22.4 NMEA Input/Output

NMEA 0183 GPS Input (4800 baud) ..... GGA, GLL, GNS, RMC
NMEA 0183 DSC Output (4800 baud) ..... DSC and DSE

22.6 DIMENSIONS

MEMO

MEMO

This device complies with part 15 of the FCC rules. Operation is subject to the condition that this device does not cause harmful interference.

Part 15.21: Changes or modifications to this device not expressly approved by Vertex Standard could void the User's authorization to operate this device.

STANDARD HORIZON

Marine Division of VERTEX STANDARD
US Headquarters
10900 Walker Street, Cypress, CA 90630, U.S.A.

www.standardhorizon.com

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Vertex Standard Co., Ltd.