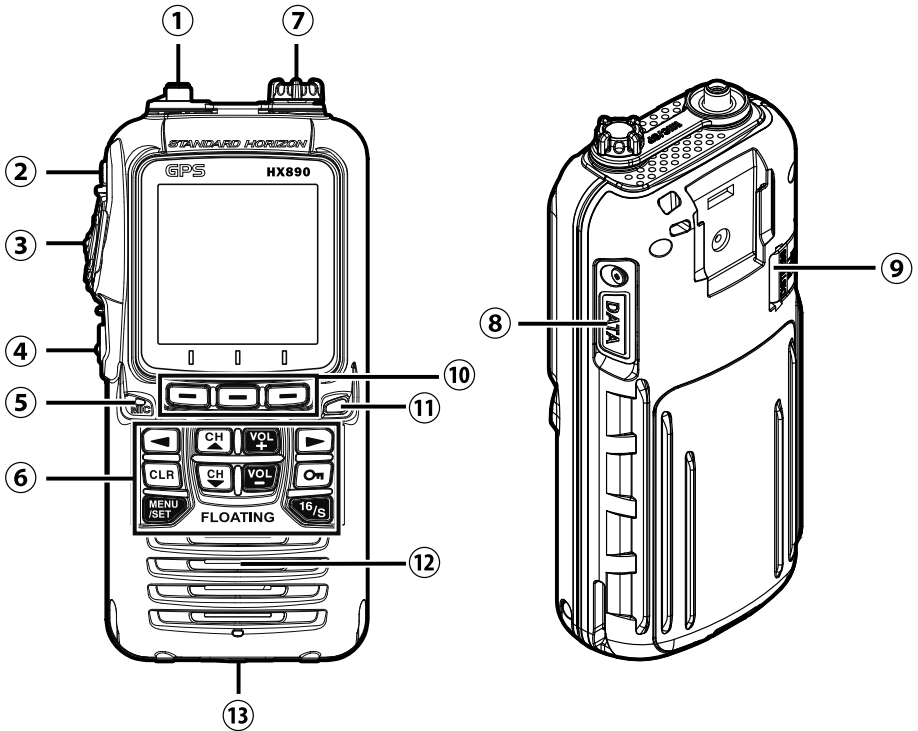# 8. CONTROLS AND SWITCHES

This section defines each control of the transceiver. See illustration below for location of controls. For detailed operating instructions refer to chapter 8 of this manual.

NOTE

HX890 is only submersible* when the MIC/SP jack, DATA jack and battery cover, are properly sealed with their rubber gaskets.
*(IPX8 Specification for submersibility: 5 ft. (1.5 m) for 30 minutes.)

① **ANT** jack (Top side)
The supplied **CAT460** flexible antenna is attached here.

② ⏻ (Power) switch (Left side)
Press and hold to toggle the radio ON or OFF.

③ **PTT** (Push-To-Talk) button (Left side)
When pushed activates the transmitter.

④ **SQL** switch (Left side)

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

Press and hold the squelch key for 3 seconds to open the squelch, allowing you to monitor the operating channel. Press this key to resume normal (quiet) monitoring.

⑤ **MIC** aperture

The internal microphone is located here.

NOTE

When transmitting, position your mouth about 1/2 to 1 inch (1.2 ~ 2.5 cm) away from the small microphone opening. Speak slowly and clearly into the microphone.

⑥ Keypad

MENU/SET key

Press to access MENU.

Press and hold to access SETUP.

CH▲ key

This key is used to change the operating channel or the squelch threshold level.

Press the key momentarily, the channel (or squelch level) increases one step. When the key is held, the channel (or squelch level) increases continuously.

CH▼ key

This key is used to change the operating channel or the squelch threshold level.

Press the key momentarily, the channel (or squelch level) decreases one step. When the key is held, the channel (or squelch level) decreases continuously.

Oπ key

Hold this key down to lock the keypad so that operations are not accidentally changed. "**LOCK**" will appear on the entire screen, to indicate that the functions are locked. To unlock the keypad, hold the key down until "**UNLOCK**" appears.

◄&► key

Press to toggle the on-screen menus to right/left.

VOL+ key

Press to increase the speaker audio volume level.

VOL− key

Press to decrease the speaker audio volume level.

16/S key

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

CLR key

Press this key to cancel a menu selection and/or keypad entry.

⑦ **MIC/SP** jack (Top side)

The jack accepts the optional: **MH-73A4B** Submersible Speaker/Microphone; the **MH-57A4B** Mini Speaker/Microphone; the **SSM-64A** VOX Headset; the **SSM-10** Submersible Speaker/Microphone; or the **SSM-55A** Earpiece/ Microphone. When this jack is used, the internal speaker and microphone are disabled.

⑧ **DATA** jack (Right side)

Use the USB mini type B jack to output the NMEA data, configure the transceiver settings and download the GPS logger data.

⑨ **DISTRESS** key (Right side)

Used to send a DSC Distress Alert. To send the Distress Alert, refer to section **"11.3.1 Transmitting a DSC Distress Alert"**.

⑩ Soft keys

The 3 programmable soft keys can be customized using the Setup Menu mode described in section **"14.8 SOFT KEYS"**. When one of the soft keys is pressed briefly, the functions will appear above each key on the display.

⑪ Strobe light indicator

When the Emergency feature is activated, this indicator blinks the internationally-recognized Morse Code "S.O.S" message. When the Water Hazard feature is activated, this indicator illuminates if the transceiver is submerged.

⑫ Speaker

The internal speaker is located here.

⑬ Battery pack lock (Bottom side)

Turn the Battery Pack Lock to the "**UNLOCK**" position for battery removal.

NOTE

Before operating the **HX890** for the first time, it is recommended that you fully charge the battery. See section **"7.1.4 Using the SBH-32 Charger Cradle"** for details.

9.1   TURNING THE TRANSCEIVER ON AND OFF

1. Press and hold the ⏻ key on the left side of the radio to turn the radio ON.
2. Press and hold the ⏻ key again to turn the radio OFF.

9.2   RECEPTION

1. Press the **SQL** key, then press the **CH▼** key until noise is heard from the speaker. This state is known as "squelch OFF".
2. Press the **VOL−/VOL+** key until noise or audio from the speaker is at a comfortable level.
3. Press the **SQL** key, then press the **CH▲** key until the random noise disappears. This state is known as the "squelch threshold".
4. Press the **CH▼/CH▲** key to select the desired channel. Refer to the channel chart on Pages 126 to 128 for available channels.
5. When a message is received, adjust the volume to the desired listening level. The "**[RX]**" indicator on the display indicates that communications are being received.

9.3   TRANSMISSION

1. Perform steps 1 through 4 of RECEPTION.
2. Before transmitting, monitor the channel to ensure it is clear.
    THIS IS AN FCC REQUIREMENT!
3. Press the **PTT** (push-to-talk) button. The "**[TX]**" indicator on the LCD is displayed.
4. Speak slowly and clearly into the microphone opening.
5. When the transmission is completed, release the **PTT** button.
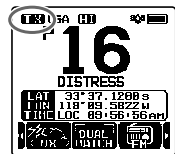
9.3.1 Transmit Power

The TX output power of the **HX890** is set to high level (6W (5W)*) in factory default, and the "**[HI]**" indicator is displayed at the top of the screen.

To switch the TX output power:

1. Press ◄/► key repeatedly until the **[HI]**, **[MD]**, or **[LO]** soft key is displayed at the bottom of the screen.
2. Press the **[HI]**, **[MD]**, or **[LOW]** soft key to switch between HI (6W (5W)*), MD (2.5W), or LO (1W) output power.

    Notes:

    The Soft Key displays the next Power Level to be selected when pressed. The actual TX Power Level is always shown in the icon on the top line of the display.

    *(5W TX required in some countries)
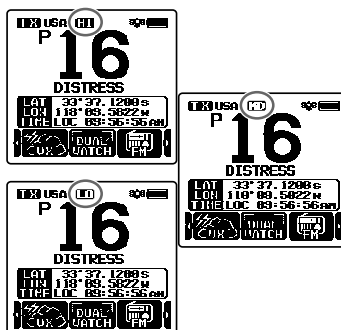
NOTE

- When the **SBT-13** Alkaline Battery Case is used, only the low power (1W) can be set.
- When the remaining power of the **SBR-13LI** Battery Pack is low, the **HX890** may transmit with the medium or low power, even though the "**[HI]**" indicator is displayed.

9.4   TRANSMIT TIME-OUT TIMER (TOT)

When the **PTT** button is held down, transmit time is limited to 5 minutes. This limits unintentional transmissions due to a stuck microphone. About 10 seconds before automatic transmitter shutdown, a warning beep will be heard from the speaker(s). The transceiver will automatically go to receive mode, even if the **PTT** button is continually held down. Before transmitting again, the **PTT** button must first be released and then pressed again.

NOTE

Once the transmitter is shut down by the TOT, transmission to the last channel is only allowed 10 seconds after the shutdown.

9.5 SIMPLEX/DUPLEX CHANNEL USE

Refer to the VHF MARINE CHANNEL CHART (Pages 126 to 128) for instructions on use of simplex and duplex channels.

NOTE

All channels are factory-programmed in accordance with FCC (USA), Industry Canada (Canada), and International regulations. Mode of operation cannot be altered from simplex to duplex or vice-versa.

9.6 SELECTING THE CHANNEL GROUP

To change the channel group between USA, International or Canada:

Press and hold ⟶ **CH SETUP** ⟶ **SELECT** ⟶ **CH GROUP** ⟶ **SELECT**
MENU/SET key   (🔼 / 🔽 key)   (▭ key)   (🔼 / 🔽 key)   (▭ key)

1. Press the **CH▼**/**CH▲** key to select desired channel group "USA", "INTL", or "CAN"*.
2. Press the **[ENTER]** soft key to store the selected setting.
3. Press the **CLR** key to return to radio operation.

*(In the European version, when setting the region, the selected European Channel Group will be displayed instead of "CANADA". For details, refer to the Note on Setting the Region on the separate yellow insert sheet.)

9.7 NOAA WEATHER CHANNELS (in USA and Canada only)

1. To receive a NOAA weather channel, press ◄/► key repeatedly until the **[WX]** soft key is displayed at the bottom of the screen.
2. Press the **[WX]** soft key. The "**WX**" indicator appears at the top of the screen.
3. Press the **CH▼**/**CH▲** key to select a different NOAA weather channel.
4. To exit from the NOAA weather channels, press the **[CH]** soft key. The transceiver returns to the channel it was on prior to a weather channel and the "**WX**" indicator disappears from the display.
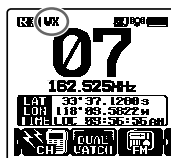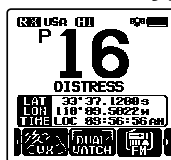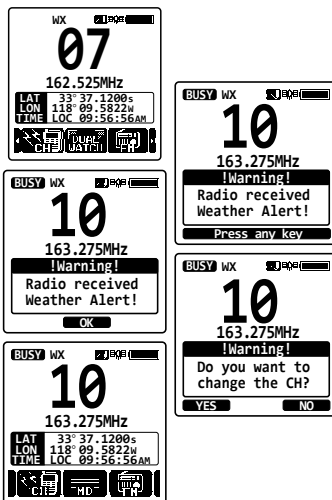
9.7.1 NOAA Weather Alert (In USA and Canada only)

In the event of extreme weather disturbances, such as storms and hurricanes, the NOAA (National Oceanic and Atmospheric Administration) sends a weather alert accompanied by a 1050 Hz tone and subsequent weather report on one of the NOAA weather channels.

The **HX890** can receive weather alerts when monitoring a weather channel and, on the last selected weather channel during scanning modes or while on another working channel.

When an alert is received on a NOAA weather channel, scanning will stop and the transceiver will emit a loud beep to alert the user of a NOAA broadcast. Press any key to stop the alert. After stopping the beep sound, the weather alert reception confirmation screen will appear. Press **[OK]** to display a confirmation screen. The confirmation screen will ask you whether to move to the weather channel or return in the marine channel. Press **[YES]** to switch to the weather channel, and press **[NO]** to return to the marine channel.

To disable the weather alert function, refer to section **"15.2 WEATHER ALERT (in USA and Canada only)"**.

NOTE

> If no key is pressed the alert will sound for 5 minutes and then the weather report will be received.

9.7.2 NOAA Weather Alert Testing (In USA and Canada only)

NOAA tests the alert system ever Wednesday between 11AM and 1PM. To test the **HX890**'s NOAA weather feature, setup as in section **"9.7.1 NOAA Weather Alert (In USA and Canada only)"** and confirm the alert is heard on Wednesdays between 11AM and 1PM local time.

9.8   MULTI WATCH (TO PRIORITY CHANNEL)

Multi watch is used to scan two or three channels for communications.

- In Dual Watch, a normal VHF channel and the priority channel are scanned alternately.
- In Triple Watch, a normal VHF channel, the priority channel, and the sub channel are scanned alternately.

When a signal is received on the normal channel the radio briefly switches between the normal channel and the priority channel to look for a transmission. If the radio receives communications on the priority channel the radio stops and listens to priority channel until communication ends and then starts dual or triple watch scan again.

9.8.1 Setting up the Multi Watch Operation

Press and hold `MENU/SET` key ⇒ `CH SETUP` (`CH▲`/`CH▼` key) ⇒ `SELECT` (`⊟` key) ⇒ `MULTI WATCH` (`CH▲`/`CH▼` key) ⇒ `SELECT` (`⊟` key)

1. Press the **CH▼**/**CH▲** key to select "DUAL" or "TRIPLE".

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

3. Press the **CLR** key to return to radio operation.
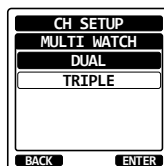
9.8.2 Starting the Dual Watch

1. Press the **SQL** key, then press the **CH▼**/**CH▲** key until the background noise disappears.
2. Press the **CH▼**/**CH▲** key to select a channel you wish to watch.
3. Press ◄/► key repeatedly until the [Dual Watch] soft key is displayed at the bottom of the screen, press the **[DUAL WATCH]** soft key.

   The radio will monitor the priority channel and the watch channel that was selected in step 2.

   If a signal is received on the watch channel selected in step 2, the **HX890** will periodically dual watch to the priority channel.
4. To stop dual watch, press one of the soft keys, then press the **[DUAL WATCH]** soft key again.

When selecting "TRIPLE" in the CH SETUP menu, **[TRIPLE WATCH]** will be displayed as the soft key instead of **[DUAL WATCH]**.
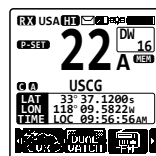
NOTE

> The priority channel may be changed from CH16 (default) to another channel. Refer to section **"15.7 PRIORITY CHANNEL"**.

9.9 SCANNING

The **HX890** will automatically scan channels programmed into the preset channel memory and also the scan channel memory, and the last selected weather channel.

When an incoming signal is detected on one of the channels during scan, the radio will pause on that channel, allowing you to listen to the incoming transmission. The radio will automatically start scanning again after the transmission stops.
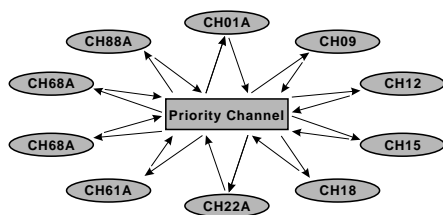
9.9.1 Selecting the Scan Type

Press and hold [MENU/SET] key	⇒	**CH SETUP** ([CH▲] / [CH▼] key)	⇒	**SELECT** ([▭] key)	⇒	**SCAN TYPE** ([CH▲] / [CH▼] key)	⇒	**SELECT** ([▭] key)

1. Press the **CH▼/CH▲** key to select "PRIORITY" or "MEMORY".
2. Press the **[ENTER]** soft key to store the selected setting.
3. Press the **CLR** key to return to radio operation.
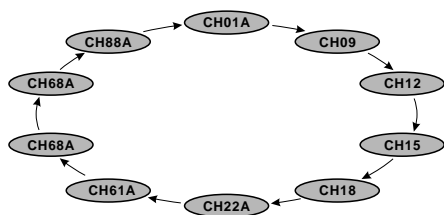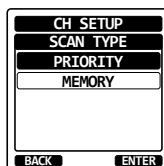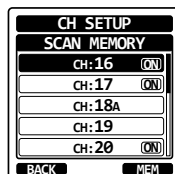

MEMORY SCAN (**M-SCAN**)

PRIORITY SCAN (**P-SCAN**)

9.9.2 Programming Scan Memory

Press and hold [MENU/SET] key	⇒	**CH SETUP** ([CH▲] / [CH▼] key)	⇒	**SELECT** ([▭] key)	⇒	**SCAN MEMORY** ([CH▲] / [CH▼] key)	⇒	**SELECT** ([▭] key)

1. Press the **CH▼/CH▲** key to select a desired channel to be scanned, then press the **[MEM]** soft keys. The "**ON**" icon will appear at the right side of the selected channel.
2. Repeat step 1 for all the desired channels to be scanned.

3. To REMOVE a channel from the list, select the channel then press the **[MEM]** soft key. The "**ON**" icon of the selected channel will disappear.

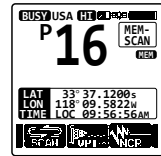4. When you have completed your selections, press the **CLR** key to return to radio operation.

To check channels to be scanned, press the **CH▼/CH▲** key repeatedly. The "**[MEM]**" icon will appear when the memory channel is displayed.

> *Note*: When "SCAN MEMORY" is assigned to the soft key, the memory function switches between ON and OFF, each time the [**MEM**] soft key is pressed.
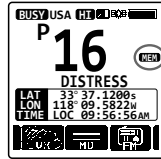
9.9.3 Memory Scanning (M-SCAN)

1. Set the scan type to "MEMORY" in the CH SETUP menu (refer to **"9.9.1 Selecting the Scan Type"**).
2. Press the **SQL** key, then press the **CH▼/CH▲** key until background noise disappears.
3. Press the ◄/► key repeatedly, then press the **[SCAN]** soft key. "MEM-SCAN" appears on the display. Scanning will proceed from the lowest to the highest programmed channel number and the preset channel (described in the next section). Scanning will stop on a channel when a transmission is received.
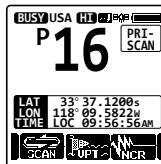   The channel number will blink during reception.
4. To stop scanning, press the **16/S** or **CLR** key.

9.9.4 Priority Scanning (P-SCAN)

1. Set the scan type to "PRIORITY" in the CH SETUP menu (refer to **"9.9.1 Selecting the Scan Type"**).
2. Press the **SQL** key, then press the **CH▼/CH▲** key until background noise disappears.
3. Press the ◄/► key repeatedly, then press the **[SCAN]** soft key. "PRI-SCAN" appears on the display. Scanning will proceed between the memorized channels and preset channel (described in next section) and the priority channel. The priority channel will be scanned after each programmed channel.
4. To stop scanning, press the **16/S** or **CLR** key.

NOTE

By default, Channel 16 is set as the priority channel. The priority channel may be reset to another desired channel by using the SETUP menu. Refer to section **"15.7 PRIORITY CHANNEL"**.

9.10   Listening to the FM Radio

HX890 includes provision for FM broadcast reception.

1. Press the **[FM]** soft key.
2. The FM radio screen will appear, press the **CH▼/CH▲** key to tune the frequency in 100 kHz steps.
   Pressing and holding the **CH▼/CH▲** key changes the frequency continuously.
3. To exit from the FM Broadcast Reception mode, press the **CLR** key to return to radio operation.
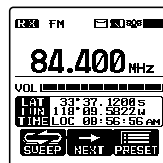
9.10.1 FM broadcast Frequency sweep operation

1. Recall the FM Broadcast Reception mode (see above).
2. Press the **[SWEEP]** soft key to start sweep operation.
   Sweeping will proceed from the lowest to the highest frequencies (step 100 kHz).
   If the radio receives an FM station, the sweep will stop on the received frequency.
3. When the radio stops on a received FM station, press the **[SWEEP]** soft key again to continue the sweep operation.

9.10.2 Store the FM frequency

1. While listening in the FM Broadcast receive mode, select the desired FM frequency.
2. Press the **[PRESET]** soft key
   The FM PRESET screen will appear.
3. To edit the frequency, press the [**SELECT**] soft key, or to edit the name tag of the frequency, press the **CH▼** key to select "**NAME**:" then press the [**SELECT**] soft key.
4. Press the **[SELECT]** soft key.
5. Press the CH▼/CH▲/◄/► keys to select the first number or character, then press the [**SELECT**] soft key to step to the next number or character.
6. When inputting the name is complete, press the [**FINISH**] soft key.
7. Press the **CH▼** key to select "**SAVE**", then press the **[SELECT]** soft key to store the FM frequency.
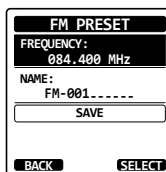
9.10.3 Memory Frequency Recall

1. Press the ◄/► key to select the [**NEXT**] soft key and repeatedly recall the FM broadcast memories.

9.11   PRESET CHANNELS: INSTANT ACCESS

Ten preset channels can be programmed for instant access. Press the ◄/► key repeatedly, and then press the **[PRESET]** soft key, to activate the user assigned channel bank. If no channels have been assigned, an alert beep will be emitted from the speaker.

Before beginning the Instant Access operation, assign the "PRESET" command into one of the programmable keys, refer to section **"14.8 SOFT KEYS"**.

9.11.1 Programming

1. Press the **CH▼/CH▲** key to select the channel to be programmed.
2. Press the ◄/► key repeatedly to indicate the function on the display, then press and hold the **[PRESET]** soft key until the "**P-SET**" icon and channel number are blinking.
3. Press the **[ADD]** soft key to program the channel into the preset channel memory. "**[P-SET]**" icon will appear.

4. Repeat steps 1 through 4 to program all the desired channels into the preset memories. Up to 10 channels can be registered. If you attempt to register the 11th channel, the error beep will sound.
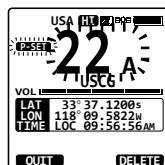
9.11.2 Operation

1. Press the ◄/► key repeatedly, then press the **[PRESET]** soft key to recall the preset channel. The "**[P-SET]**" icon will appear on the display.
2. Press the **CH▼/CH▲** key to select the desired preset channel.
3. Press one of the soft keys, then press the **[PRESET]** soft key to return to the last selected channel. The "**[P-SET]**" icon will disappear from the display.
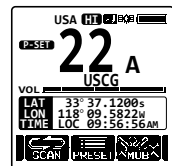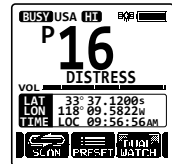
9.11.3 Deletion

1. Press the ◀/▶ key repeatedly, then press the **[PRESET]** soft key to recall the preset channel.
2. Press the **CH▼**/**CH▲** key to select the preset channel to be deleted.
3. Press one of the soft keys, then press and hold the **[PRESET]** soft key until the "**[P-SET]**" icon and channel number are blinking.
4. Press the **[DELETE]** soft key to delete the channel from the preset channel memory.
5. Repeat steps 2 through 4 to delete the undesired channels from preset memory.
6. To exit from deleting the preset channels, press the **[QUIT]** soft key.
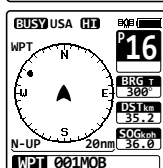
9.12 MOB OPERATION

In an emergency, the MOB (Man Over-Board) feature records the vessel's position information instantly. This permits reporting and easily navigating to the exact location.

1. Press the ◀/▶ key repeatedly, then press the **[MOB]** soft key.
2. Press the **[TO WPT]** soft key to start the navigation to the displayed position. For details about the navigation, see section **"12. NAVIGATION"**.
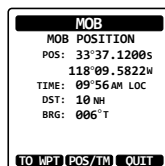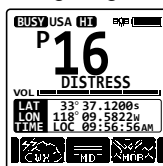
   To modify the displayed position information, press the **[POS/TM]** soft key. For details about modifying the position information, see section **"Editing a Waypoint"**.
3. To transmit a DSC distress message, lift the red spring-loaded DISTRESS cover on the right side of the transceiver, then press and hold the **DISTRESS** key (see section **"11.3.1 Transmitting a DSC Distress Alert"** for details). The nature of the Distress Alert is automatically set to "MOB".

9.13 VOX OPERATION

The **HX890** has the VOX (voice-actuated transmit/receive switching) feature, which allows you to transmit and receive hands free by utilizing the optional VOX headset **SSM-64A** (or a compatible device from a third-party vender).

Insert the plug of the VOX headset into the **MIC/SP** jack of the **HX890**, then speak into the microphone of the headset to start VOX operation.

The **SSM-64A** is optimized for use with the **HX890**, so that it may be used without detailed settings.

When using third-party VOX headset, set up the VOX operation of the **HX890** via the SETUP menu. Refer to section **"15.12 VOX OPERATION"** for details.

9.14   VOICE SCRAMBLER

The 4-code type (CVS2500A compatible), or the 32-code type (FVP-42 compatible for Furuno Electric FM-4721) voice scrambler functions are available by configuring optional settings. Refer to the section **"15.11 SCRAMBLER SETUP"** to program the voice scrambler.

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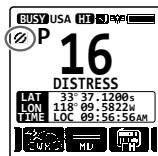
9.15   OPERATION MENU

The **HX890** provides the advanced features listed below, via the "MENU" screen that is displayed by pressing the **MENU** key on the front panel.

DSC CALL

The following four types of DSC (Digital Selective Calling) are available: Individual Calling; Group Calling; Position Reporting; and Auto Position Polling. This menu also provides convenient setting of DSC functions as below:

- Sets the nature of Distress Alert (DIST ALERT MSG)
- Reviews previously received DSC calls (DSC LOG)
- Transmits a test call (DSC TEST)
- Tests the transceiver (DSC LOOP BACK)

CH

Exit from the Weather channel, press this menu to return to radio operation.

GM

The GM (Group Monitor) feature performs group polling and displays positions of the group members.

GPS

Current location, course, and speed can be displayed in a numerical or compass style. The position and signal strength of acquired GPS satellites may be displayed.

NAVI

Enables navigation to a memorized or temporarily input waypoint.

MMSI/POS INFO

Input the MMSI (Maritime Mobile Service Identity) before you using DSC.

10. GPS OPERATION

The **HX890** has an internal GPS antenna to receive and display the position information. Your position information as well as other station received positions can be stored in memory and utilized later for navigation.

NOTE

> The GPS unit may be turned off, or set to power save mode to increase the battery life, via the SETUP menu. Refer to section **"17. GPS SETUP"**.
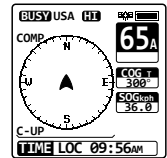
10.1   DISPLAYING POSITION INFORMATION
10.1.1 GPS Information Compass Display

Press [MENU/SET] key ⇒ GPS ⚡ ⇒ **SELECT** ⇒ **COMPASS**

($\boxed{CH▲}$ / $\boxed{CH▼}$ / $\boxed{▶}$ / $\boxed{◀}$ key)   ($\boxed{\text{—}}$ key)   ($\boxed{CH▲}$ / $\boxed{CH▼}$ key)

1. Press the **[ENTER]** soft key to display the compass display.
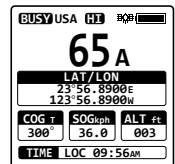2. Press the **CLR** key to return to radio operation.

   Note: A soft key may be assigned to immediately switch the screen between the basic display and the compass display by pressing the [**COMP**] soft key.

10.1.2 GPS Information Numerical Display

Press [MENU/SET] key ⇒ GPS ⚡ ⇒ **SELECT** ⇒ **GPS INFO**

($\boxed{CH▲}$ / $\boxed{CH▼}$ / $\boxed{▶}$ / $\boxed{◀}$ key)   ($\boxed{\text{—}}$ key)   ($\boxed{CH▲}$ / $\boxed{CH▼}$ key)
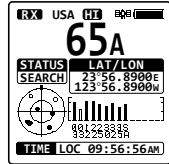
1. Press the **[ENTER]** soft key to reveal the numerical display.

2. Press the **CLR** key to return to radio operation.

10.2   CHECKING GPS STATUS

Press [MENU/SET] key ⇒ GPS ⚡ ⇒ **SELECT** ⇒ **GPS STATUS**

($\boxed{CH▲}$ / $\boxed{CH▼}$ / $\boxed{▶}$ / $\boxed{◀}$ key)   ($\boxed{\text{—}}$ key)   ($\boxed{CH▲}$ / $\boxed{CH▼}$ key)

1. Press the **[ENTER]** soft key to display the GPS status currently being received.

2. Press the **CLR** key to return to radio operation.

10.3 GPS LOGGER OPERATION

The **HX890** includes a position logger that allows recording the GPS location information at periodic intervals.

1. Press the **[LOGGER]** soft key to turn the function ON or OFF.

    The recording starts and the display returns to the previous screen with the "■]" icon at the top of the display.

    • The log interval time of the recording may be changed via the SETUP menu.

    Notes:

    • The power save operation of the GPS unit is disabled while the logger is activated.

    • To utilize the records, connect the **HX890** to a PC and download the log data from the radio by using the PC Programming Software. Refer to section **"22. CONNECTING A USB DATA TERMINAL TO THE PC"**.
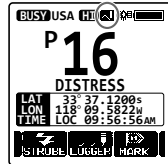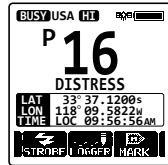
Logger operation alert:

• When the memory for log data becomes full, three beeps will sound and a warning message will be displayed. Subsequently, the logger does not operate until the log data in the memory is erased.

• If the logger cannot record for some reason, three beeps will sound and a warning message will be displayed. Thereafter, the logger operation ceases.

• When the radio cannot erase the log data in the memory, following a memory-full alert (see above), an error message will be displayed. (Also, in the SETUP menu refer to section **"17.13 LOG ERASE"**).

11. DIGITAL SELECTIVE CALLING (DSC)

11.1   GENERAL

WARNING

This **HX890** is designed to generate a digital maritime distress and safety call to facilitate search and rescue. This unit will only be effective as a safety device, when it is used within communication range of a shore-based VHF marine channel 70 distress and safety watch system (or another vessel equipped with a compatible DCS transceiver). The range of signal may vary but under normal conditions should be approximately 5 nautical miles.

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

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

11.2   MARITIME MOBILE SERVICE IDENTITY (MMSI)
11.2.1 What is an MMSI?
An MMSI is a nine-digit number used on marine transceivers capable of using Digital Selective Calling (DSC). This number is used like a telephone number to selectively call other vessels.

THIS NUMBER MUST BE PROGRAMMED INTO THE RADIO TO OPERATE DSC FUNCTIONS.

How can I obtain an MMSI assignment?
In the USA, visit the following websites to register:
   http://www.boatus.com/mmsi/
   https://www.seatow.com/tools-and-education/mmsi
   http://wireless.fcc.gov/services/index.htm?job=licensing&id=ship_stations
In Canada, visit
   http://www.ic.gc.ca/epic/site/smt-gst.nsf/en/sf01032e.html

11.2.2 Programming the MMSI

WARNING

> **The MMSI can be entered only once.** Therefore, **please be careful not to input the incorrect MMSI number.** If you need to change the MMSI number after it has been entered, the radio will have to be reset. Refer to the section **"19.3 Reset the USER MMSI and ATIS CODE"**.

Press 🔘MENU/SET key ➠
MMSI/POS INFO
➠
SELECT
(🔘CH▲ / 🔘CH▼ / ▶ / ◀ key)   (🔘 key)

1. Press the **[MMSI]** soft key.
2. Press the **CH▼/CH▲/◀/▶** keys to select the first number of your MMSI, then press the **[SELECT]** soft key to step to the next number.
3. Repeat step 2 to set your MMSI number (9 digits).
4. If a mistake was made entering in the MMSI number, press the **CH▼/CH▲/◀/▶** keys to select "←" or "→", press the **[SELECT]** soft key until the wrong character is selected, then perform step 2.
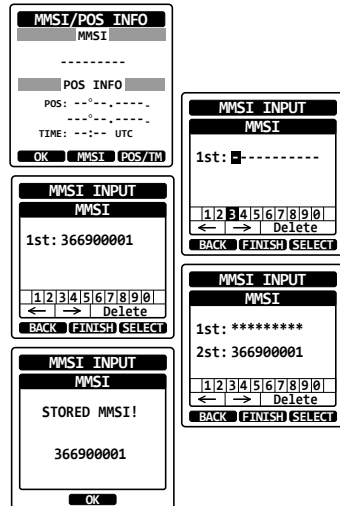
5. When finished programming the MMSI number, press the **[FINISH]** soft key. The radio will ask you to input the MMSI number again. Perform steps 2 through 5 above.
6. After the second number has been input, press the **[FINISH]** soft key to store the MMSI.
7. Press the **[OK]** soft key to return to radio operation.

NOTE

> To view your MMSI after programming to ensure it is correct, perform steps 1 to 2. Look that the MMSI number shown on the display is correct.

11.3 DSC DISTRESS Alert

The **HX890** is capable of transmitting and receiving DSC distress messages to all DSC radios. Distress Alert transmissions from the **HX890** will include the latitude and longitude of the vessel when the internal GPS unit is activated.

11.3.1 Transmitting a DSC Distress Alert

NOTE

> To be able to transmit a DSC Distress Alert an MMSI number must be programmed, refer to section **"11.2.2 Programming the MMSI"**.

Basic Operation

1. Lift the red spring-loaded DISTRESS cover on the right side of the transceiver. Press, then press and hold the **DISTRESS** key for 3 seconds. The radio display will count down (3-2-1) and then transmit the Distress Alert. The backlight of the display and keypad flashes while the radio's display is counting down.

2. When the distress signal is sent, the transceiver listens on CH70 until an acknowledgment signal is received.

3. If no acknowledgment is received, the Distress Alert is repeated in 4-minute intervals until the Distress Alert Acknowledgment is received.

4. When the Distress Alert Acknowledgment is received, a distress alarm sounds and Channel 16 is automatically selected. The display shows the MMSI of the ship responding to your distress.

5. Press the **PTT** button and state your name, vessel name, number of persons on board and the distress situation, then say "over" and wait for a reply from the acknowledging ship.

6. To turn the distress alarm OFF before the radio retransmits the Distress Alert, press the **16/S** key or the **[QUIT]** soft key.