

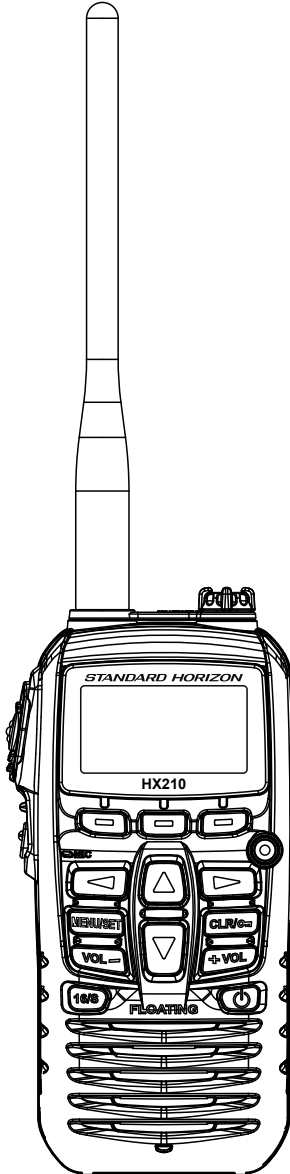
***STANDARD HORIZON***

*Nothing takes to water like Standard Horizon*

**HX210**

**Floating VHF FM Marine Transceiver**

**Owner's Manual**



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## 1. GENERAL INFORMATION

### 1.1 INTRODUCTION

Congratulations on your purchase of the **HX210**! Whether this is your first portable marine VHF transceiver, or if you have other STANDARD HORIZON equipment, the STANDARD HORIZON organization is committed to ensuring your enjoyment of this high performance transceiver, which should provide you with many years of satisfying communications even in the harshest of environments. STANDARD HORIZON technical support personnel stands behind every product sold, and we invite you to contact us should you require technical advice or assistance by calling (800)767-2450 Monday through Friday 8AM to 5PM Pacific time.

The **HX210** is a Submersible Floating 6-Watt portable two way marine transceiver. The transceiver has all allocated USA, International, or Canadian channels. It has emergency channel 16 which can be immediately selected from any channel by pressing the [16/S] key.

The **HX210** includes the following features: Memory Scanning, Priority Scanning, Dual and Triple watch, NOAA Weather Alert, easy-to-read large LCD display, Battery Life displayed on LCD, and a transmit Time-Out Timer (TOT).

The **HX210** transmitter provides a full 6 Watt of transmit power and also is selectable to 1 Watt to assist the user in ensuring maximum battery life.

We appreciate your purchase of the **HX210**, and encourage you to read this manual thoroughly, so as to learn and fully understand the capabilities of the **HX210**.

## 2. ACCESSORIES

### 2.1 PACKING LIST

When the package containing the transceiver is first opened, please check it for the following contents:

- **HX210** Transceiver
- Antenna **CAT460** (Antenna gain: 1.5 dBi, Impedance: 50 ohm)
- AC Charger (100-240 VAC, Type-A plug) **SAD-23B** or **SAD-18B**
- DC Charger with Cigarette Lighter Plug **E-DC-19A**
- Charger Cradle **SBH-25**
- Belt Clip **CLIP-22**
- Hand Strap **YS-05-01**
- Owner's Manual

### 2.2 OPTIONS

**SSM-14A** Speaker Microphone

**Note:** Before operating the **HX210** for the first time, it is recommended that the battery be charged. Please see section "**4.2.2 BATTERY CHARGING**" for details.

## 3. ABOUT THIS RADIO

### 3.1 ABOUT THE VHF MARINE BAND

The radio frequencies used in the VHF marine band lie between 156 and 158 MHz with NOAA Weather stations available between 161 and 163 MHz. The marine VHF band provides communications over distances that are essentially “Line of sight” Actual transmission range depends much more on antenna type, gain and height than on the power output of the transmitter. On a fixed mount 25 W radio transmission expected distances can be greater than 15 miles, for a portable 5 W radio transmission the expected distance can be greater than 5 miles in “Line of sight”.

The user of a Marine VHF radio is subject to severe fines if the radio is used on land. The reasoning for this is you may be near an inland waterway, or propagation anomalies may cause your transmission to be heard in a waterway. If this occurs, depending upon the marine VHF channel on which you are transmitting, you could interfere with a search and rescue case, or contribute to a collision between passing ships. For VHF Marine channel assignments refer to section “**8. VHF MARINE CHANNEL ASSIGNMENTS**”.

#### WARNING

This radio is capable of transmitting on Marine VHF.

The FCC allows the use of VHF Marine band on water areas only. However the FCC does not allow the use of the VHF Marine band when on land. If persons use the VHF Marine Band on land and interfere with others communicating, the FCC will be notified and search for the interference. Responsible parties found to be transmitting on the VHF Marine Band on land could be fined up to \$10,000 for the first offense.

### 3.2 ABOUT WATER RESISTANCE

The **HX210** is only submersible\* when the MIC/SP cap is installed in the MIC/SP jack.

※ IPX7 Specification for submersibility: 5 ft. (1.5 m) for 30 minutes.

### 3.3 DISTRESS AND HAILING (CHANNEL 16)

Channel 16 is known as the Hail and Distress Channel. An emergency may be defined as a threat to life or property. In such instances, be sure the transceiver is on and set to “Channel 16”. Then use the following procedure:

1. Press the **PTT** (Push-To-Talk) switch and say “**Mayday, Mayday, Mayday**. This is \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_” (your vessel’s name).
2. Then repeat once: “**Mayday, \_\_\_\_\_**” (your vessel’s name).
3. Now report your position in latitude/longitude, or by giving a true or magnetic bearing (state which) to a well-known landmark such as a naviga-

- tion aid or geographic feature such as an island or harbor entry.
4. Explain the nature of your distress (sinking, collision, aground, fire, heart attack, life-threatening injury, etc.).
  5. State the kind of assistance your desire (pumps, medical aid, etc.).
  6. Report the number of persons aboard and condition of any injured.
  7. Estimate the present seaworthiness and condition of your vessel.
  8. Give your vessel's description: length, design (power or sail), color and other distinguishing marks. The total transmission should not exceed 1 minute.
  9. End the message by saying "**OVER**". Release the **PTT** switch and listen.
  10. If there is no answer, repeat the above procedure. If there is still no response, try another channel.

### 3.4 CALLING ANOTHER VESSEL (CHANNEL 16 OR 9)

Channel 16 may be used for initial contact (hailing) with another vessel.

However, its most important use is for emergency messages. This channel must be monitored at all times except when actually using another channel.

It is monitored by the U.S. and Canadian Coast Guards and by other vessels. Use of channel 16 for hailing must be limited to initial contact only. Calling should not exceed 30 seconds, but may be repeated 3 times at 2-minute intervals. In areas of heavy radio traffic, congestion on channel 16 resulting from its use as a hailing channel can be reduced significantly in U.S. waters by using Channel 9 as the initial contact (hailing) channel for non-emergency communications. Here, also, calling time should not exceed 30 seconds but may be repeated 3 times at 2-minute intervals.

Prior to making contact with another vessel, refer to the channel charts in this manual, and select an appropriate channel for communications after initial contact. For example, Channels 68 and 69 of the U.S. VHF Charts are some of the channels available to non-commercial (recreational) boaters. Monitor your desired channel in advance to make sure you will not be interrupting other traffic, and then go back to either channel 16 or 9 for your initial contact.

When the hailing channel (16 or 9) is clear, state the name of the other vessel you wish to call and then "**this is**" followed by the name of your vessel and your Station License (Call Sign). When the other vessel returns your call, immediately request another channel by saying "**go to**", the number of the other channel, and "**over**". Then switch to the new channel. When the new channel is not busy, call the other vessel.

After a transmission, say "**over**", and release the **PTT** (Push-To-Talk) switch. When all communication with the other vessel is completed, end the last transmission by stating your Call Sign and the word "**out**". Note that it is not necessary to state your Call Sign with each transmission, only at the beginning and end of the contact.

Remember to return to Channel 16 when not using another channel. Some radios automatically monitor Channel 16 even when set to other channels or when scanning.

### **3.5 BRIDGE CHANNELS 13 AND 67**

Channel 13 is used at docks, bridges and by vessels maneuvering in port. Messages on this channel must concern navigation only, such as meeting and passing in restricted waters.

Channel 67 is used for navigational traffic between vessels.

By regulation, power is normally limited to 1 Watt on these channels. Your radio is programmed to automatically reduce power to this limit on these channels. However, in certain situations it may be necessary to temporarily use a higher power. See page 14 for means to temporarily override the low-power limit on these two channels.

### **3.6 SIMPLEX/DUPLEX CHANNEL USE**

Refer to the section “**8. VHF MARINE CHANNEL ASSIGNMENTS**” for instructions on use of simplex and duplex channels.

#### **NOTE**

All channels are factory-programmed in accordance with FCC (USA), Industry Canada and International regulations. The mode of operation cannot be altered from simplex to duplex or vice-versa. Simplex (ship to ship) or duplex (marine operator) mode is automatically activated, depending on the channel and whether the USA, International or Canadian operating band is selected.

## **3.7 AUTOMATED RADIO CHECK SERVICE**

In areas across the country, Sea Tow offers boaters a way to conduct radio checks. To use Sea Tow's free Automated Radio Check service, simply tune your VHF radio to the appropriate channel for your location and conduct a radio check as you typically would. Upon releasing your radio's microphone, the system will play an automated message and relay your transmission back to you, thereby letting you know how your signal will sound to other boaters.

The Automated Radio Check Service is currently available in the areas listed below.

### **West Coast**

Sea Tow Newport/LA - Ch. 27

Sea Tow San Diego - Ch. 27

### **Northeast**

Sea Tow Portland-Midcoast (Maine) - Ch. 27

Sea Tow Boston - Ch. 27

Sea Tow South Shore (Mass.) - Ch. 28

Sea Tow Rhode Island - Ch. 24

Sea Tow Eastern Long Island - Ch. 27

Sea Tow Huntington (N.Y.) - Ch. 27

Sea Tow Manasquan (N.J.) - Ch. 28

### **Mid-Atlantic**

Sea Tow Northern Chesapeake (Md.) - Ch. 28

Sea Tow Central Chesapeake (Md.) - Ch. 27

Sea Tow Hampton Roads (Va.) - Ch. 28

### **North Carolina**

Sea Tow Wrightsville Beach - Ch. 28

Sea Tow Ocean Isle Beach - Ch. 28

### **Florida**

Sea Tow Sebastian - Ch. 28

Sea Tow Fort Lauderdale - Ch. 27

Sea Tow Charlotte Harbor - Ch. 24

Sea Tow Tampa Bay - Ch. 27

Sea Tow Horseshoe Beach - Ch. 27

Sea Tow Carrabelle/St. Marks - Ch. 27

Sea Tow Pensacola/Orange Beach (Ala.) - Ch. 27



## 4. GETTING STARTED

### 4.1 RADIO CARE

After using the **HX210** in salt water environment is recommended to clean the radio with fresh by rinsing the radio under a sink faucet or by dunking the radio in a bucket of fresh water. After washing, use a soft cloth and thoroughly dry all parts of the radio. This is to keep the rubber switches and speaker grill clean and in top operating condition.

### 4.2 BATTERIES AND CHARGERS

If the radio has never been used, or its charge is depleted, it may be charged by connecting the **SBH-25** Charger Cradle with the **SAD-23B** AC Adapter, see section “**4.2.2 BATTERY CHARGING**”. If 12V DC power is available, the supplied **E-DC-19A** DC Cable with 12 V Cigarette Lighter Plug may be used for charging the battery. The **SAD-23B**, and **E-DC-19A** will charge a completely discharged builtin battery in approximately 3 hours.

#### CAUTION

To avoid risk of explosion and injury, builtin battery pack should only be charged or recharged in non-hazardous environments.

#### 4.2.1 BATTERY SAFETY

Builtin battery for your transceiver contain Li-ion batteries. This type of battery stores a charge powerful enough to be dangerous if misused or abused, especially when removed from the transceiver. Please observe the following precautions:

**DO NOT SHORT BATTERY PACK TERMINALS:** Shorting the terminals that power the transceiver can cause sparks, severe overheating, burns, and battery cell damage. If the short is of sufficient duration, it is possible to melt battery components. Do not place a loose battery pack on or near metal surfaces or objects such as paper clips, keys, tools, etc. When the battery pack is installed on the transceiver, the terminals that transfer current to the transceiver are not exposed. The terminals that are exposed on the battery pack when it is mounted on the transceiver are charging terminals only and do not constitute a hazard.

**DO NOT INCINERATE:** Do not dispose of any battery in a fire or incinerator. The heat of fire may cause battery cells to explode and/or release dangerous gases.

#### Battery Maintenance

For safe and proper battery use, please observe the following:

- Builtin battery should be charged only in non-hazardous environments;
- Use only STANDARD HORIZON-approved batteries;

- Exceeding the specified temperature limits;
- Reversing charge polarity. Use only the proper charger. If this is tampered with or another charger is used, permanent damage may result;
- Use only a STANDARD HORIZON approved charger. The use of any other charger may cause permanent damage to the battery.
- Follow charging instructions provided with the chargers.

#### Battery Recycling

**DO NOT PLACE USED BATTERIES IN YOUR REGULAR TRASH!**

**LI-ION BATTERIES MUST BE COLLECTED, RECYCLED OR DISPOSED OF IN AN ENVIRONMENTALLY SOUND MANNER.**



The incineration, land filling or mixing of Li-ion batteries with the municipal solid waste stream is PROHIBITED BY LAW in most areas.

Return batteries to an approved Li-ion battery recycler. This may be where you purchased the battery.

Contact your local waste management officials for other information regarding the environmentally sound collection, recycling and disposal of Li-ion batteries.

#### 4.2.2 BATTERY CHARGING

1. Turn the transceiver off.
2. Insert the DC plug from the **SAD-23B** into the DC jack at the bottom of the **SBH-25**, then plug the **SAD-23B** into the AC line outlet.
3. Insert the **HX210** into the **SBH-25**; the antenna should be at the left side when viewing the charger from the front.
4. If the **HX210** is inserted correctly, the **HX210**'s LCD display will show the battery charging icon. A fully-discharged pack will be charged completely in approximately 3 hours.
5. When charging is completed, the battery charging icon will disappear.
6. Disconnect the Charge Cable from the **HX210**, then unplug the **SAD-23B** from the AC line outlet.

#### **CAUTION**

The **SAD-23B** is NOT designed to be waterproof. Do not attempt to charge in water hazardous locations.

**NOTE**

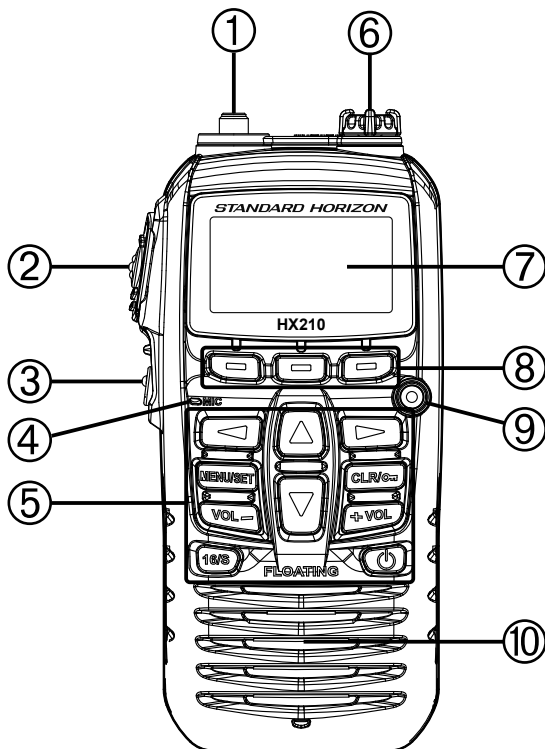
- The **SAD-23B** is only designed for the charging of the **HX210**'s built-in battery, and is not suitable for other purposes. The **SAD-23B** may contribute noise to TV and radio reception in the immediate vicinity, so it do not recommend its use adjacent to such device.
- When carefully maintained, a built-in battery should be useful for about 300 charge/discharge cycles.

## 5. CONTROLS AND INDICATORS

### 5.1 CONTROLS AND SWITCHES

#### NOTE

This section defines each control of the transceiver. For detailed operating instructions, refer to section “**6 BASIC OPERATION**”. Refer to illustrations for the location of the following controls, switches, and connections.



- ① **ANT** Jack (Top Panel)  
The supplied **CAT460** flexible antenna is attached here.
- ② **PTT** (PUSH-TO-TALK) Switch (Left Side Panel)  
When pushed activates the transmitter.

- ③ **SQL** Switch  
Press this key to SQL adjustment.

**Secondary use:**

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

④ Microphone

The internal microphone 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 Keypad

▲ (UP) Key

Press this key to change the operating channel and squelch threshold level.

Press the key momentarily, the channel (or level) will increase one step. Holding the key, the channel (or level) will increase continuously.

▼ (DOWN) Key

Press this key to change the operating channel and squelch threshold level.

Press the key momentarily, the channel (or level) will decrease one step. Holding the key, the channel (or level) will decrease continuously.

◀ / ▶ Key

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

**MENU/SET** Key

Press to access MENU.

**Secondary use:**

Press and hold to access SET Mode.

**CLR/On** Key

Press to cancel a function or menu selection.

**Secondary use:**

Press and hold to lock and unlock the keypad.

**VOL+ / VOL-** Key

Press to adjust the speaker audio volume.

**16/S** Key

Pressing this key immediately recalls channel 16 from any channel location. Press and hold to recall the sub channel.

**POWER** Key

Press and hold this key to turn the radio "on" or "off".

- ⑥ MIC/SP Jack  
The jack accepts the optional SSM-14A Speaker/Microphone, MH-57A4B Mini Speaker/Microphone, SSM-64A VOX Headset, or SSM-55A Earpiece/Microphone. When this jack is used, the internal speaker and microphone are disabled.
- ⑦ LCD Display  
This display shows current operating conditions.
- ⑧ Program key  
These three programmable keys can be customized through the setup menu mode. By pressing one of these keys briefly, display the key functions at the bottom of the display.
- ⑨ Water Enabled Light  
When the **HX210** comes in contact with water, the light will blink white to assist finding the radio in low light conditions. This feature operates when the radio is on or off.
- ⑩ Speaker  
The internal speaker is located here.

## 6. BASIC OPERATION

### 6.1 PROHIBITED COMMUNICATIONS

The FCC prohibits the following communications:

- False distress or emergency messages;
- Messages to “any boat” except in emergencies and radio tests;
- Messages to or from a vessel on land;
- Transmission while on land;
- Obscene, indecent, or profane language (potential fine of \$10,000).

### 6.2 INITIAL SETUP

1. Install the antenna onto the transceiver; hold the bottom end of the antenna, then screw it onto the mating connector on the transceiver until it is snug. Do not over-tighten.

### 6.3 RECEPTION

1. Press and hold the **POWER** key for two seconds to turn the radio “on”.
2. Press and hold the [**SQL**] switch until the “**BUSY**” indicator will appear on the display. This state is known as “squelch off”.
3. Press the VOL- /VOL+ key until noise or audio from the speaker is at a comfortable level.
4. Press the [**SQL**] switch to resume normal (quiet) monitoring.
5. Press the [**▲**] or [**▼**] key to select the desired channel. Refer to the channel chart on page 27 for available channels.
6. When a signal is received, adjust the volume to the desired listening level. The “**BUSY**” indicator on the LCD is displayed indicating that the channel is being used or the radio is not squelched.

### 6.4 TRANSMISSION

1. Perform “**6.3 RECEPTION**” discussion above.
2. Before transmitting, monitor the channel and make sure it is clear.  
**THIS IS AN FCC REQUIREMENT!**
3. Press the **PTT** (Push-To-Talk) switch to transmit. During transmission, the “**TX**” indicator will appear on the display.
4. Position your mouth about 1/2 to 1 inch (1.2 ~ 2.5 cm) away from the mic hole. Speak slowly and clearly into the microphone.
5. When the transmission is finished, release the **PTT** switch.

### **6.4.1 TRANSMIT POWER**

The TX output power of the **HX210** is set to high level (6W) in factory default, and the “**HI**” indicator is displayed on the top part of the screen.

To switch the TX output power:

1. Press one of soft keys.
2. Press the [**◀**]/[**▶**] key repeatedly, until the [**HI**], [**MD**], or [**LO**] soft key is displayed at the bottom of the LCD.
3. Press the [**HI**], [**MD**], or [**LO**] soft key to switch between HI (6 W), MD (2.5 W), or LO (1 W) output power.

### **6.4.2 TRANSMIT TIME - OUT TIMER (TOT)**

While the **PTT** switch is held down, transmission time is limited to 5 minutes. This prevents prolonged (unintentional) transmissions. About 10 seconds before automatic transmitter shutdown, a warning beep will sound from the speaker. The transceiver automatically switches to the receiving mode, even if the **PTT** switch is held down. Before transmitting again, the **PTT** switch must first be released, then wait 10 seconds and then pressed again. This Time-Out-Timer (TOT) prevents a continuous transmission that would result from an accidentally stuck **PTT** switch.

### **WATER ENABLED LIGHT**

When the **HX210** comes in contact with water a white light will blink to assist retrieving it in low light conditions. The light will automatically turn off in about 15 seconds when it is removed from water.

## **6.5 USA, CANADIAN, AND INTERNATIONAL CHANNELS**

To change the channel group from USA to International or Canada:

1. Press and hold the [**MENU/SET**] key.
2. Press the [**▲**]/[**▼**] key to select “CHANNEL SETUP”.
3. Press the [**SELECT**] soft key.
4. Press the [**▲**]/[**▼**] key to select “CHANNEL GROUP”.
5. Press the [**SELECT**] soft key.
6. Press the [**▲**]/[**▼**] key to select desired channel group “USA”, “INTERNATIONAL”, or “CANADA”.
7. Press the [**ENTER**] soft key to store the selected setting.
8. Press the [**CLR/On**] key to return to radio operation.



## 6.6 KEYPAD LOCKING

In order to prevent accidental channel change, the **HX210**'s keypad may be locked.

Hold down the **[CLR/On]** key to lock the keypad (except the **PTT**, **VOL+**, **VOL-** and **[CLR/On]** keys) so that they are not accidentally changed.

Hold down the **[CLR/On]** key to unlock the radio.

## 6.7 NOAA WEATHER CHANNELS

1. Press the MENU key to display "MENU", then press the **[WX]** soft key. The "WX" indicator appears on the top part of the screen.
2. Press the **[▲]/[▼]** key to select a different NOAA weather channel.
3. To exit from the NOAA weather channels, press the **[MENU/SET]** key to display "MENU", then 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.

### 6.7.1 NOAA WEATHER ALERT

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 **HX210** can receive weather alerts when monitoring a weather channel and, on the last selected weather channel during scanning modes, while on another working channel or FM Radio mode.

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 any key 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.

### 6.7.2 NOAA WEATHER ALERT TESTING

In order to test this system, NOAA broadcasts the 1050 Hz tone every Wednesday sometime between 11 AM and 1 PM local time. You may use this opportunity to test your transceiver periodically to confirm that the Weather Alert feature is working, or for training crew members on how to configure the transceiver to receive the NOAA Weather Alerts.

## 6.8 PRESET CHANNELS: INSTANT ACCESS

10 preset channels can be programmed for instant access. Press one of soft key. Press the [◀]/[▶] key repeatedly, then press the [PRESET] soft key. Pressing the [PRESET] key activates the user assigned channel bank. If the [PRESET] soft key is pressed and no channels have been assigned, an alert beep will be emitted from the speaker.

### 6.8.1 PROGRAMMING

1. Select the desired channel to be assigned into the Preset Channel Bank using the [▲]/[▼] key.
2. Press one of soft keys.
3. Press the [◀]/[▶] key repeatedly, until the [P-SET] soft key is displayed at the bottom of the LCD.
4. Press and hold the [P-SET] soft key until the “P-SET” icon and channel number are blinking.
5. Press the [ADD] soft key to program the channel into the preset channel memory. “P-SET” icon will appear.
6. Repeat steps 1 through 5 to program the desired channels into the preset channels. Up to 10 channels can be registered. If you attempt to register the 11th channel, error beep will sound.

### 6.8.2 OPERATION

1. Press one of soft keys.
2. Press the [◀]/[▶] key repeatedly, until the [P-SET] soft key is displayed at the bottom of the LCD.
3. Press the [P-SET] soft key, then press the [▲]/[▼] key to select the desired preset channel.
4. Press one of soft keys, then press the [P-SET] soft key to return to the last selected channel. The “P-SET” icon will disappear from the display.

### 6.8.3 Deleting a Preset Channel

1. Press one of soft keys.
2. Press the [◀]/[▶] key repeatedly, until the [P-SET] soft key is displayed at the bottom of the LCD.
3. Press the [P-SET] soft key, then press the [▲]/[▼] key to select the preset channel to be deleted.
4. Press one of soft keys, then press and hold the [P-SET] soft key until the “P-SET” icon and channel number are blinking.
5. Press the [DEL] soft key to delete the channel from the preset channel memory.
6. To exit from deleting the preset channels, press the [BACK] soft key.

## 6.9 SCANNING

The **HX210** allows the user to select the scan type from “Memory Scan” or “Priority Scan”. “Memory Scan” scans the channels that were programmed into Scan Memory and also channels stored in the Preset Channel. “Priority Scan” is similar to the “Memory Scan” scan, however it scans the priority channel (channel 16) and dual watches to channels programmed in memory scan and preset channel memory. 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.

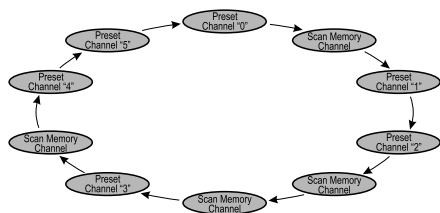
### 6.9.1 PROGRAMMING SCAN MEMORY

1. Press and hold the [**MENU/SET**] key.
2. Press the [**▲**]/[**▼**] key to select “CHANNEL 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, then press the [**MEM**] soft keys. “ON” icon will appear at the right side of the selected channel.
6. Repeat step 5 for all the desired channels to be scanned.
7. To REMOVE a channel from the list, select the channel then press the [**MEM**] soft key. “ON” icon of the selected channel will disappear.
8. When you have completed your selection, press the [**CLR/On**] key to return to radio operation.

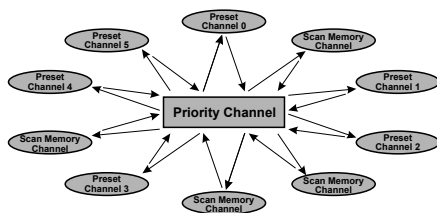
To check channels to be scanned, press the [**▲**]/[**▼**] key repeatedly. The “**MEM**” icon will appear when the memory channel is displayed.

### 6.9.2 SELECTING SCAN TYPE

1. Press and hold the [**MENU/SET**] key.
2. Press the [**▲**]/[**▼**] key to select “CHANNEL 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 “M-SCAN” or “P-SCAN”.
6. Press the [**ENTER**] soft key to store the selected setting.
7. Press the [**CLR/On**] key to return to radio operation.



Memory Scan (M-SCAN)



Priority Scan (P-SCAN)

## **6.9.3 OPERATION**

### **6.9.3.1 Memory Scanning (M-SCAN)**

1. Set the scan type to “M-SCAN” in the SETUP menu (refer to “6.9.2 Selecting Scan Type”).
2. Press the [SQL] switch, then press the [▲]/[▼] key until background noise disappears.
3. Press one of soft keys.
4. Press the [◀]/[▶] key repeatedly, until the [SCAN] soft key is displayed at the bottom of the LCD.
5. Press the [SCAN] soft key. “MEM SCAN” appears on the display. Scanning will proceed from the lowest to the highest programmed channel number and preset channel (described in the next section) and will stop on a channel when a transmission is received.  
The channel number will blink during reception.
6. To stop scanning, press the [16/S] or [CLR/On] key.

### **6.9.3.2 Priority Scanning (P-SCAN)**

1. Set the scan type to “P-SCAN” in the SETUP menu (refer to “6.9.2 Selecting Scan Type”).
2. Press the [SQL] switch, then press the [▲]/[▼] key until background noise disappears.
3. Press one of soft keys.
4. Press the [◀]/[▶] key repeatedly, until the [SCAN] soft key is displayed at the bottom of the LCD.
5. Press the [SCAN] soft key. “PRI SCAN” appears on the display. Scanning will proceed between the memorized channels and preset channel and the priority channel.  
The priority channel will be scanned after each programmed channel.
6. To stop scanning, press the [16/S] or [CLR/On] key.

## 6.10 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.

### 6.10.1 Setting up the Multi Watch Operation

1. Press and hold the [MENU/SET] key.
2. Press the [▲]/[▼] key to select "CHANNEL SETUP".
3. Press the [SELECT] soft key, then select "MULTI WATCH" with the [▲]/[▼] key.
4. Press the [SELECT] soft key.
5. Press the [▲]/[▼] key to select "DUAL" or "TRIPLE".
6. Press the [ENTER] soft key to store the selected setting.
7. Press the [CLR/Off] key to return to radio operation.

### 6.10.2 Starting the Dual Watch

1. Press the [SQL] switch, then press the [▲]/[▼] key until background noise disappears.
2. Press the [▲]/[▼] key to select a channel you wish to watch.
3. Press one of soft keys.
4. Press the [◀]/[▶] key repeatedly, until the [DW] soft key is displayed at the bottom of the LCD.
5. Press the [DW] soft key. The radio will monitor the priority channel and the channel that was selected in step 2.
6. If a signal is received on the channel selected in step 2, the HX210 will dual watch to priority channel.
7. To stop dual watch, press the [CLR/Off] key.

### **6.10.3 Starting the Triple Watch**

You may change the Dual Watch feature to Triple Watch via the Menu (“Set”) Mode. The Triple Watch scans Channel 16, 9, and one other channel.

1. Press the [**▲**]/[**▼**] key to select the channel to scan along with Channel 9 and 16.
2. Press one of soft keys.
3. Press the [**◀**]/[**▶**] key repeatedly, until the [**TW**] soft key is displayed at the bottom of the LCD.
4. Press the [**TW**] soft key to activate the Triple Watch feature.
5. When a transmission is received on the channel 16, **HX210** will stay on the channel 16 until the incoming signal disappears.
6. When a transmission is received on the channel 9, the **HX210** will Dual watch between the channel 16 and channel 9.
7. When the **HX210** receives a transmission on the working channel, the **HX210** will Triple watch between the working channel, channel 16, and channel 9.
8. To stop Triple watch, press the [**CLR/On**] key.

### **6.11 Listening to the FM Radio**

The **HX210** includes provision for reception of FM broadcasts.

1. Press the [**MENU/SET**] key to display “MENU”, then press the “RADIO” soft key.  
The FM broadcast coverage is 76.000 to 108.000 MHz and utilizes Wide-FM mode.
2. Press the [**▲**]/[**▼**] key to select the desired station.
3. To exit from the FM Broadcast Reception mode, press the [**MENU/SET**] key to display “MENU”, then press the [**CH**] soft key.

### **6.12 Soft Keys**

This menu item allows soft key assignment and how long the display will show the soft key icon after a soft key is pressed.

1. Press and hold the [**MENU/SET**] key.
2. Press the [**▲**]/[**▼**] key to select “CONFIG”, then press the [**SELECT**] soft key.
3. Select “KEY SETUP” with the [**▲**]/[**▼**] key, then press the [**SELECT**] soft key.
4. Select “ASSIGNMENT” with the [**▲**]/[**▼**] key, then press the [**SELECT**] soft key.
5. Press the [**▲**]/[**▼**] key to select the key number to be programmed, and press the [**ENTER**] soft key.

6. Press the [▲]/[▼] key to select a new function to be assigned, and press the [ENTER] soft key. Available functions are listed below.
7. Press the [CLR/On] key to return to radio operation.

Display	Function
HI/MD/LO	Selects transmit power.
DW/TW	Turns on or off dual or triple watch scan.
MEMORY	Add or remove channels from memory channel scan.
SCAN	Turns on or off scanning function.
PRESET	Programs or deletes the preset memory channel.
STROBE	Turns on or off the strobe light LED.

### 6.13 Key Timer

1. Press and hold the [MENU/SET] key.
2. Press the [▲]/[▼] key to select “CONFIG”, then press the [SELECT] soft key.
3. Select “KEY SETUP” with the [▲]/[▼] key, then press the [SELECT] soft key.
4. Select “KEY TIMER” with the [▲]/[▼] key, then press the [SELECT] soft key.
5. Press the [▲]/[▼] key to select the desired time.
6. Press the [ENTER] soft key to store the selected setting.
7. Press the [CLR/On] key to return to radio operation.

### 6.14 Reset

You may initialize the memories and settings of the setup categories independently or return the transceiver to the original factory setting.

1. Press and hold the [MENU/SET] key.
2. Press the [▲]/[▼] key to select “CONFIG”, then press the [SELECT] soft key.
3. Select “RESET” with the [▲]/[▼] key, then press the [SELECT] soft key.
4. Press the [▲]/[▼] key to select the desired category. You can select one from “CHANNEL”, “CONFIG”, or “ALL” (all settings except the MMSI will be initialized).
5. Press the [SELECT] soft key.
6. Press the [▲]/[▼] key to select “OK?”, then press the [ENTER] soft key.

## 6.15 Key Beep

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

1. Press and hold the **[MENU/SET]** key.
2. Press the **[▲]/[▼]** key to select “**CONFIG**”, then press the **[SELECT]** soft key.
3. Select “**KEY BEEP**” with the **[▲]/[▼]** key, then press the **[SELECT]** soft key.
4. Press the **[▲]/[▼]** key to select the desired level. The beep level can be set from “1” to “5”, or “OFF”.
5. Press the **[ENTER]** soft key to store the selected level.
6. To stop Triple watch, press the **[CLR/On]** key.

## 6.16 Battery Saver

This function allows you to change the battery save mode setting.

1. Press and hold the **[MENU/SET]** key.
2. Press the **[▲]/[▼]** key to select “**CONFIG**”, then press the **[SELECT]** soft key.
3. Select “**BATTERY SAVE**” with the **[▲]/[▼]** key, then press the **[SELECT]** soft key.
4. Press the **[▲]/[▼]** key to select the desired setting. You can select one from “OFF”, “50%”, “70%”, “80%”, or “90%”.
5. Press the **[ENTER]** soft key to store the selected level.
6. To stop Triple watch, press the **[CLR/On]** key.



## 7. MAINTENANCE

### 7.1 GENERAL

The inherent quality of the solid-state components in STANDARD HORIZON radios will provide many years of continuous use. Take the following precautions to prevent damage to the radio.

- Never press the **PTT** switch unless an antenna or suitable dummy load is connected to the antenna receptacle.
- Use only STANDARD HORIZON-approved accessories and replacement parts.

### 7.2 FACTORY SERVICE

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

#### *For repairs In USA*

##### **Standard Horizon**

Attention Marine Repair Department  
6125 Phyllis Drive, Cypress, California 90630  
Telephone (800) 366-4566

#### *For repairs in Canada*

##### **Westcom Marine**

488 East 62nd Avenue  
Vancouver BC V5X2G1  
Phone (604)327-6280

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.

## 8. VHF MARINE CHANNEL ASSIGNMENTS

Tables on the following columns list the VHF Marine Channel assignments for USA. 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 USA. 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 USA, 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 **22A**, and will not be able to communicate with the Coast Guard. To use Channel **22A**, 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 environment.

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	<b>X</b>			<b>S</b>	<b>156.150</b>		<b>U.S. Government Only, Coast Guard</b>
04			X	D	156.200	160.800	Public Correspondence (Marine Operator),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 Safety
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
1019			X	S	156.950		
2019			X	S	161.550		
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 ship- ment
1020			X	S	157.000		
2020			X	S	161.600		
20A	X			S	157.000		Port operation
21			X	D	157.050	161.650	Port operation, ship movement
<b>21A</b>	<b>X</b>	<b>X</b>		<b>S</b>	<b>157.050</b>		<b>U.S. Government Only, Canadian Coast Guard</b>
21B		X			---	161.650	CMB Service
22			X	D	157.100	161.700	Port operation, ship movement

VHF MARINE CHANNEL CHART								
CH	U	C	I	S/D	TX		RX	CHANNEL USE
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)
<b>23A</b>	<b>X</b>			<b>S</b>	<b>157.150</b>			<b>U.S. Government Only</b>
23B		X			---	161.750		CMB Service
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)
25B		X			---	161.850		CMB Service
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)
28B		X			---	162.000		CMB Service
60		X	X	D	156.025	160.625		Public Correspondence (Marine Operator)
61			X	D	156.075	160.675		Public Correspondence (Marine Operator), Port operation, ship movement
<b>61A</b>	<b>X</b>	<b>X</b>		<b>S</b>	<b>156.075</b>			<b>Public Coast: Coast Guard; East Coast: commercial fishing only</b>
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
<b>64A</b>	<b>X</b>	<b>X</b>		<b>S</b>	<b>156.225</b>			<b>Public Correspondence (Marine Operator), Port operation, ship movement</b>
65			X	D	156.275	160.875		Public Correspondence (Marine Operator), Port operation, ship movement
65A	X	X		S	156.275			Port Operations
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 communications 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 operations 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 operations and Ship movement
72	X	X	X	S	156.625			Non-commercial (Inter-ship only)

VHF MARINE CHANNEL CHART								
CH	U	C	I	S/D	TX		RX	CHANNEL USE
73	X	X	X	S	156.675			US: Port Operations, Canada: Commercial fish ing only, International: Inter-ship, Port operations and Ship movement
74	X	X	X	S	156.725			US: Port Operations, Canada: Commercial fishing only, International: Inter-ship, Port operations and Ship movement
75	X	X	X	S	156.775			Port Operations (Inter-ship only) (1W)
76	X	X	X	S	156.825			Port Operations (Inter-ship only) (1W)
77	X	X		S	156.875			Port Operations (Inter-ship only) (1W)
77			X	S	156.875			Port Operations (Inter-ship only)
78			X	D	156.925	161.525		Public Correspondence (Marine Operator), Port operation, ship-movement
1078			X	S	156.925			
2078			X	S	161.525			
78A	X	X		S	156.925			Non-commercial (Recreational)
79			X	D	156.975	161.575		Port operation and Ship movement
1079			X	S	156.975			
2079			X	S	161.575			
79A	X	X		S	156.975			Commercial
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
<b>81A</b>	<b>X</b>			<b>S</b>	<b>157.075</b>			<b>U.S. Government Only - Environmental protection operations.</b>
81A		X		S	157.075			Canadian Coast Guard Only
82			X	D	157.125	161.725		Public Correspondence (Marine Operator), Port operation, ship movement
<b>82A</b>	<b>X</b>	<b>X</b>		<b>S</b>	<b>157.125</b>			<b>U.S. Government Only, Canadian Coast Guard Only</b>
83			X	D	157.175	161.775		Public Correspondence (Marine Operator)
<b>83A</b>	<b>X</b>	<b>X</b>		<b>S</b>	<b>157.175</b>			<b>U.S. Government Only, Canadian Coast Guard Only</b>
83B		X			---	161.775		CMB Service
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

**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.

## 9. 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 YAESU USA.) 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** - 1 year. Note: Batteries will be deemed defective 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 YAESU USA.). 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 HORI-



ZON, 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 YAESU USA.) products! We are confident your new radio will serve your needs for many years!

Please visit [www.standardhorizon.com](http://www.standardhorizon.com) to register the **HX210** 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.

#### **Product Support Inquiries**

If you have any questions or comments regarding the use of the **HX210**, you can visit the STANDARD HORIZON Web site to send an E-mail or contact the Product Support team at (800) 767-2450 ext 6300 M-F 8:00-5:00PST.

In addition to the warranty, STANDARD HORIZON includes a lifetime "flat rate" program 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).

## 10. SPECIFICATIONS

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

### 10.1 GENERAL

<b>Frequency Ranges:</b>	TX: 156.025 MHz - 161.600 MHz RX: 156.050 MHz - 163.275 MHz
<b>Channel Spacing:</b>	25 kHz
<b>Frequency Stability:</b>	±3 ppm (-4 °F to +140 °F [-20 °C to +60 °C])
<b>Emission Type:</b>	16K0G3E
<b>Antenna Impedance:</b>	50 Ω
<b>Operating Voltage:</b>	7.4 V DC
<b>Current Consumption:</b>	330 mA (Receive, Typical at AF MAX.) 100 mA (Standby) 1.6 A / 1.0 A / 0.7 A (TX: 6 W / 2.5 W / 1 W)
<b>Operating Temperature:</b>	-4 °F to +140 °F (-20 °C to +60 °C)
<b>Case Size (W x H x D):</b>	2.36" x 5.2" x 1.58" (60 x 132 x 40 mm) (w/o knob & antenna)
<b>Weight (Approx.):</b>	9.9 oz (280 g) (with Belt Clip, & Antenna)

### 10.2 TRANSMITTER

<b>RF Power Output:</b>	6 W / 2.5 W / 1 W (@3.7 V)
<b>Maximum Deviation:</b>	±5 kHz
<b>Spurious Emission:</b>	Less than 0.25 μW
<b>Microphone Impedance:</b>	2 kΩ

### 10.3 RECEIVER

<b>Circuit Type:</b>	Double-Conversion Superheterodyne
<b>Intermediate Frequencies:</b>	1st: 51.650 MHz, 2nd: 450 kHz
<b>Adjacent Channel Selectivity:</b>	70 dB typical
<b>Intermodulation:</b>	68 dB typical
<b>Hum &amp; Noise Ratio:</b>	40 dB typical
<b>Sensitivity (12 dB SINAD):</b>	0.25 μV (-6 dBμVemf)
<b>Selectivity:</b>	25 kHz (-60 dB)
<b>AF Output (Internal SP):</b>	600 mW @16 Ω for 10 % THD (@ 7.4 V)

## 11. FCC AND CANADA RADIO LICENSE INFORMATION

Standard Horizon radios comply with the Federal Communication Commission (FCC) and Industry-Canada requirements that regulate the Maritime Radio Service.

### MARITIME STATION LICENSE

An FCC ship station license is no longer required for any vessel traveling in U.S. waters which uses a VHF marine radio, RADAR or EPIRB, and which is not required to carry radio equipment. However, any vessel required to carry a marine radio on an international voyage, carrying a HF single side band radiotelephone or marine satellite terminal. FCC license forms, including applications for ship (605) and land station licenses can be downloaded via the Internet at [www.fcc.gov/Forms/Form605/605.html](http://www.fcc.gov/Forms/Form605/605.html). To obtain a form from the FCC, call (888) 225-5322.

### MARINE RADIO CALL SIGN

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

### CANADIAN SHIP STATION LICENSING

You may need a license when traveling in Canada. If you do need a license contact their nearest field office or regional office or write:

**Industry Canada  
Radio Regulatory Branch  
Attn: DOSP  
300 Slater Street  
Ottawa, Ontario  
Canada, KIA 0C8**

### FCC / INDUSTRY CANADA INFORMATION

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

FCC Type Accepted:..... Part 80  
Output Power with builtin Battery: ..... 1.0/2.5/6.0 W (Low/Mid/High)  
Emission:..... 16K0G3E  
Frequency Range:..... 156.025 to 162.025MHz  
FCC Type Number:..... K6630613X30  
Industry Canada Type Approval: ..... 511B-30613X30

## 12. RF EXPOSURE SAFETY STATEMENT

### SAFETY INFORMATION

Your wireless handheld portable transceiver contains a low power transmitter. When the Push-to-Talk (PTT) button is pushed, the transceiver sends out radio frequency (RF) signals. In August 1996, the Federal Communications Commission adopted RF exposure guidelines with safety levels for hand-held wireless devices.

This device is authorized to operate at a duty factor not to exceed 50% (this corresponds to 50% transmission time and 50% reception time).

**WARNING:** To maintain compliance with the FCC's RF exposure guidelines, this transmitter and its antenna must maintain a separation distance of at least 1 inch (2.5 centimeters) from your face. Speak in a normal voice, with the antenna pointed up and away from the face at the required separation distance.

Use only the supplied antenna. Unauthorized antennas, modifications, or attachments could damage the transmitter, and may violate FCC regulations.

### CONSIGNES DE SECURITE

Votre émetteur-récepteur portatif sans fil contient un émetteur à faible puissance. Lorsque vous appuyez sur le bouton Push-to-Talk (PTT), l'émetteur-récepteur émet des signaux de radiofréquence (RF). En août 1996, la FCC (Commission Fédérale des Communications) a adopté des directives relatives à l'exposition aux RF avec des niveaux de sécurité pour les appareils sans fil portatifs. Le fonctionnement de cet appareil est autorisé à un facteur d'utilisation ne dépassant pas 50 % (correspondant à 50% de la durée de transmission et 50% de la durée de réception).

**AVERTISSEMENT:** Pour assurer la conformité avec les directives d'exposition RF de la FCC, cet émetteur-récepteur et son antenne doivent être maintenus à une distance minimum d'un pouce (2,5 centimètre) de votre visage. Parlez avec une voix normale, avec l'antenne dirigée vers le haut et éloignée du visage, à la distance requise. Si vous utilisez un casque pour cette radio, et que vous portez la radio sur vous, utilisez exclusivement le clip de ceinture Yaesu pour cet émetteur-récepteur, et assurez-vous que l'antenne se trouve à une distance minimum d'un pouce (2,5 centimètres) de votre corps pendant l'émission. Utilisez exclusivement l'antenne fournie. Les antennes, les modifications ou les accessoires non autorisés peuvent endommager l'émetteur-récepteur et enfreindre les réglementations FCC.

## 13. FCC NOTICE

### NOTICE

Unauthorized changes or modifications to this equipment may void compliance with FCC Rules. Any change or modification must be approved in writing by STANDARD HORIZON, a division of YAESU USA.

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

NOTE: THE GRANTEE IS NOT RESPONSIBLE FOR ANY CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

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

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This radio transmitter (identify the device by certification number, or model number if Category II) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Le présent émetteur radio (identifier le dispositif par son numéro de certification ou son numéro de modèle s'il fait partie du matériel de catégorie I) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

The applicant is responsible for providing proper instructions to the user of the radio device, and any usage restrictions, including limits of exposure durations. The user manual shall provide installation and operation instructions, as well as any special usage conditions, to ensure compliance with SAR and/or RF field strength limits. For instance, compliance distance shall be clearly stated in the user manual.

The user manual of devices intended for controlled use shall also include information relating to the operating characteristics of the device; the operating instructions to ensure compliance with SAR and/or RF field strength limits; information on the installation and operation of accessories to ensure compliance with SAR and/or RF field strength limits; and contact information where the user can obtain Canadian information on RF exposure and compliance. Other related information may also be included.

## ***STANDARD HORIZON***

*Nothing takes to water like Standard Horizon*

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***STANDARD HORIZON***

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