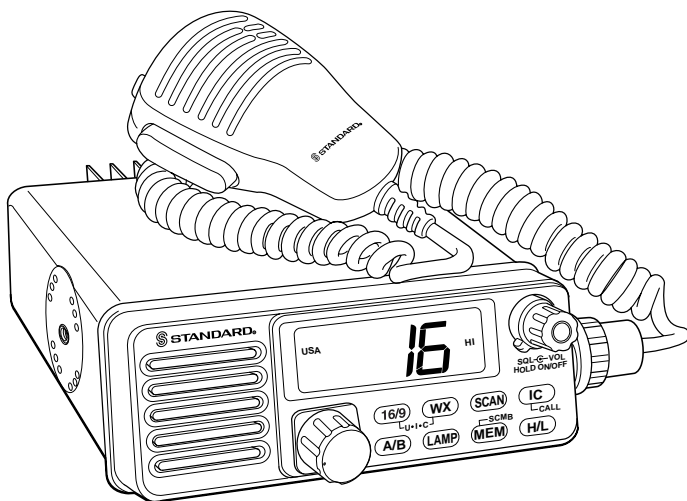


# Horizon GX2335S NOVA+

25 Watts VHF/FM  
Marine Transceiver  
Owner's Manual

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# 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 Communications Corp.

## NOTICE

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.

**1.1 INTRODUCTION**

The Standard Communications Corp. (SCC) GX2335S Nova+ is a VHF/FM transceiver designed for use in the frequency range of 156.025 to 163.275 MHz. It requires 13.8V for operation and has a switchable RF output power of 1 watt or 25 watts.

The transceiver is capable of intercom operation with the use of an optional CMP23 (full remote-control speaker/microphone with display).

The transceiver operates on all currently-allocated marine channels which are switchable for use with either USA, International, or Canadian regulations. It has an emergency channel 16 which can be immediately selected from any channel by pressing the red **16/9** key. Weather channels can also be accessed immediately by pressing the **WX** key with channel selection.

The transceiver is supplied with a removable speaker/microphone. Other features of the transceiver include: scanning, priority scanning and faulty antenna indication. An optional CVS240 voice scrambler can also be installed for privacy of communications.

**1.2 FCC/ INDUSTRY CANADA INFORMATION**

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

Type Acceptance .....	FCC Part 80
Output Power .....	1 Watt (low) and 25 Watts (high)
Emission .....	16K0F3E
Frequency Range .....	156.025 to 163.275 MHz
FCC Type Number .....	APV0597
Industry Canada Type Approval .....	363822194ALVC

**Additional FCC and Industry Canada data, including licensing requirements, are contained in the companion document titled OWNER'S MANUAL SUPPLEMENT. The document also contains charts for VHF channel assignments, transceiver procedures, maintenance, factory service information, and warranty data.**

## 2.1 PACKING LIST

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

- GX2335S Nova+ Transceiver (White/Black)
- CMP847W+/B+ (White/Black) Microphone (attached to the transceiver) and hanger kit
- Open-Frame Mounting Bracket and attaching hardware
- DC23A Dust Cover
- Spare Fuse (6 A, 250 V )
- Owner's Manual
- Owner's Manual Supplement
- Quick-Reference Card

## 2.2 OPTIONS

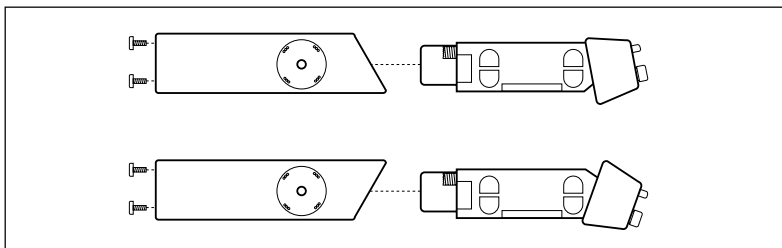
CMB14 .....	Straight Flush-Mount Bracket
CMB15 .....	Angled Flush-Mount Bracket
CMP23 .....	Remote-Access Microphone (RAM Mic)
CAW23 .....	Extension Cable for RAM Mic
CAW2340 .....	CMP847 Mic Extension Cable
101S .....	Extension Speaker
201S .....	Extension Speaker
201SZ.....	Flush Mount Extension Speaker

### 3.1 FREQUENCY AND DEVIATION TESTS

FCC Regulations require that the radio's deviation and frequency be tested before initial installation or operation. This test should be performed by a Certified Marine Technician.

### 3.2 LOCATION

1. The radio can be mounted at any angle. Choose a mounting location that:
  - is far enough from any compass to avoid erroneous compass reading due to the speaker magnet
  - provides protection from sea spray and rain
  - provides accessibility to the front panel controls
  - allows connection to a power source and an antenna
  - has nearby space for installation of a microphone hanger
  - antenna can be mounted at least 3 feet from radio
2. After the location is determined, choose the viewing angle of the front panel. If the transceiver is mounted overhead, it is probably preferable to tilt the face down for better viewing. If it is mounted below eye level on a flat surface, it is probably preferable to tilt the face upward. The face can be tilted up or down as illustrated in Figure 1.



**Figure 1. Viewing Angles**

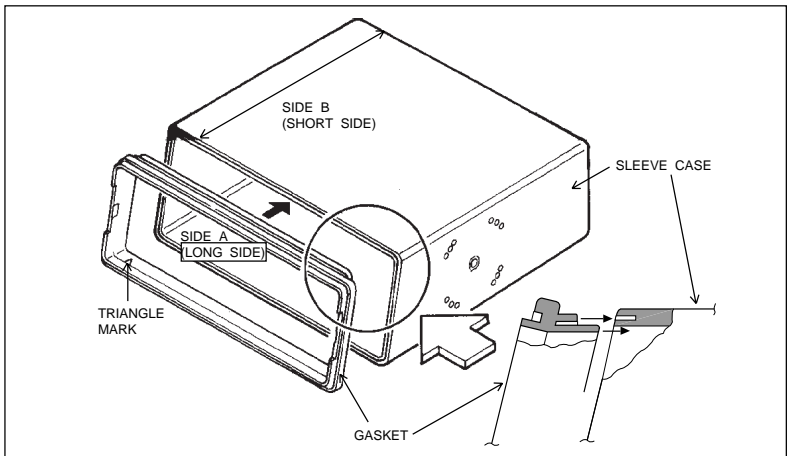
To change the viewing angle:

- a. Remove the four screws on the rear sleeve case of the transceiver.
- b. Push the transceiver from the rear towards the front of the sleeve case and remove it.

## NOTE

Try to keep the rectangular gasket that is between the sleeve case and the transceiver attached to the sleeve case. If it is removed during this procedure, or adheres to the transceiver case instead of to the sleeve case, it must be repositioned with care. Improper positioning will cause a defective moisture seal between the transceiver and the sleeve case. Water can then enter and damage the transceiver.

- c. If the rectangular gasket between the sleeve case and the transceiver is removed or becomes detached from the sleeve case, refer to Figure 2 for correct installation. The key to successful orientation is the triangle mark on the gasket. It should be on the long side of the sleeve case.



**Figure 2. Placement of Moisture-sealing Gasket**

3. Install the radio following the procedure in the next section.

### 3.3 INSTALLATION USING REGULAR MOUNTING BRACKET

1. Mount the bracket using the washers, nuts, and long hex head bolts.
2. Position the radio within the bracket arms, matching the radio notches to achieve the desired positioning.
3. Secure the radio to the bracket knobs as shown in Figure 3.

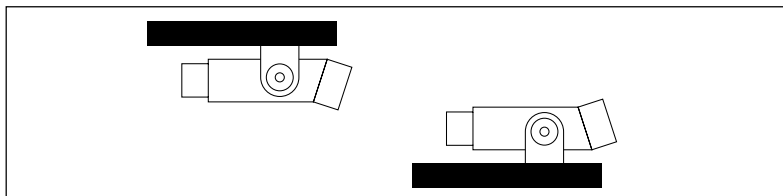


Figure 3. Regular Mounting Bracket

### 3.4 OPTIONAL MOUNTING KITS

Optional mounting kits for the transceiver are:

CMB14 Angled Mount

CMB15 Straight Mount

These mounts are shown in Figure 4. Instructions and hardware are included in each mounting kit.

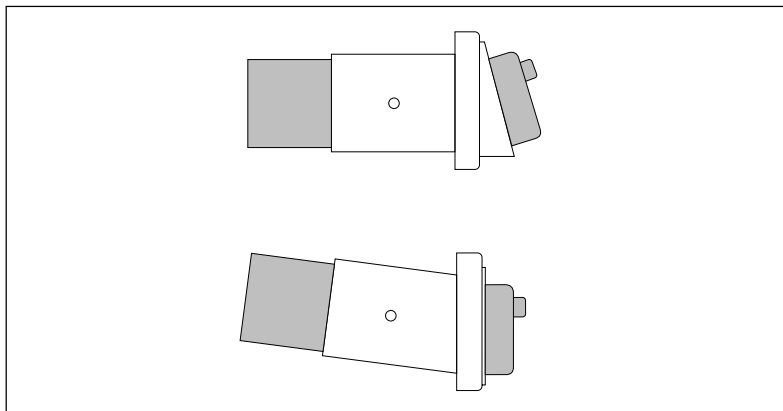


Figure 4. Optional CMB14 and CMB15 Mounting Brackets

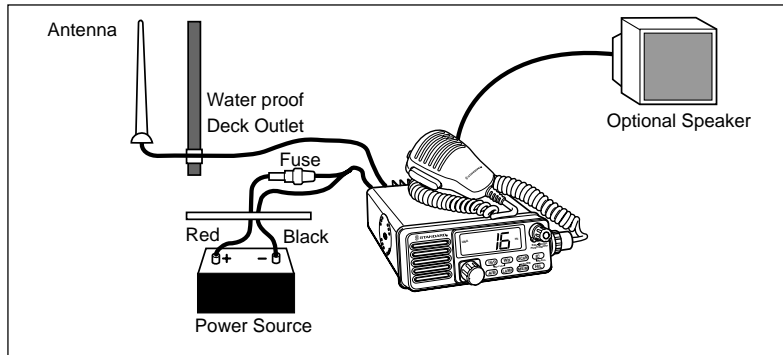


## 3.5 ELECTRICAL CONNECTIONS

### CAUTION

Improper polarity connections will damage the radio!

Connect the power cord and antenna to the radio. Antenna and Power Supply connections are as follows (see Figure 5):



**Figure 5. General Installation**

1. Mount the antenna at least 3 feet away from the radio. At the rear of the radio, connect the antenna cable. It must have a SO-239 connector. RG-8/U coaxial cable must be used if the antenna is 25 feet or more from the radio. RG58 cable can be used for distances less than 25 feet.
2. Connect the red power cord to a 13.8 VDC  $\pm$  20% power source. Connect the black power cord to negative ground.
3. If an optional remote extension speaker is to be used, connect it at this time. Connect the RCA phono plug to the external speaker jack of the transceiver.
4. It is advisable to have a Certified Marine Technician check the power output and the standing wave ratio of the antenna after installation.

**NOTE**

This section defines each control of the transceiver. See Figure 6 for location of controls. For detailed operation instructions refer to chapter 5 of this manual.

## 4.1 CONTROLS AND CONNECTIONS

### ① POWER SWITCH/VOLUME CONTROL

To turn the power on or off, **press and hold** this knob for 3 seconds, and sets the audio volume. When power is turned on, the transceiver is set to the priority channel.

#### **Secondary Use**

When the transceiver is turned on while the **SCAN** and **WX** keys are held down, the internal microprocessor is reset. This clears memory and all user-programmed settings, such as scan memory, priority scan assignments, and A/B channel assignments. This condition is known as the default condition, the same as when shipped from the factory. For a list of these defaults, see the section on Resetting the Transceiver's Microprocessor.

### ② SQUELCH CONTROL (**SQL**)

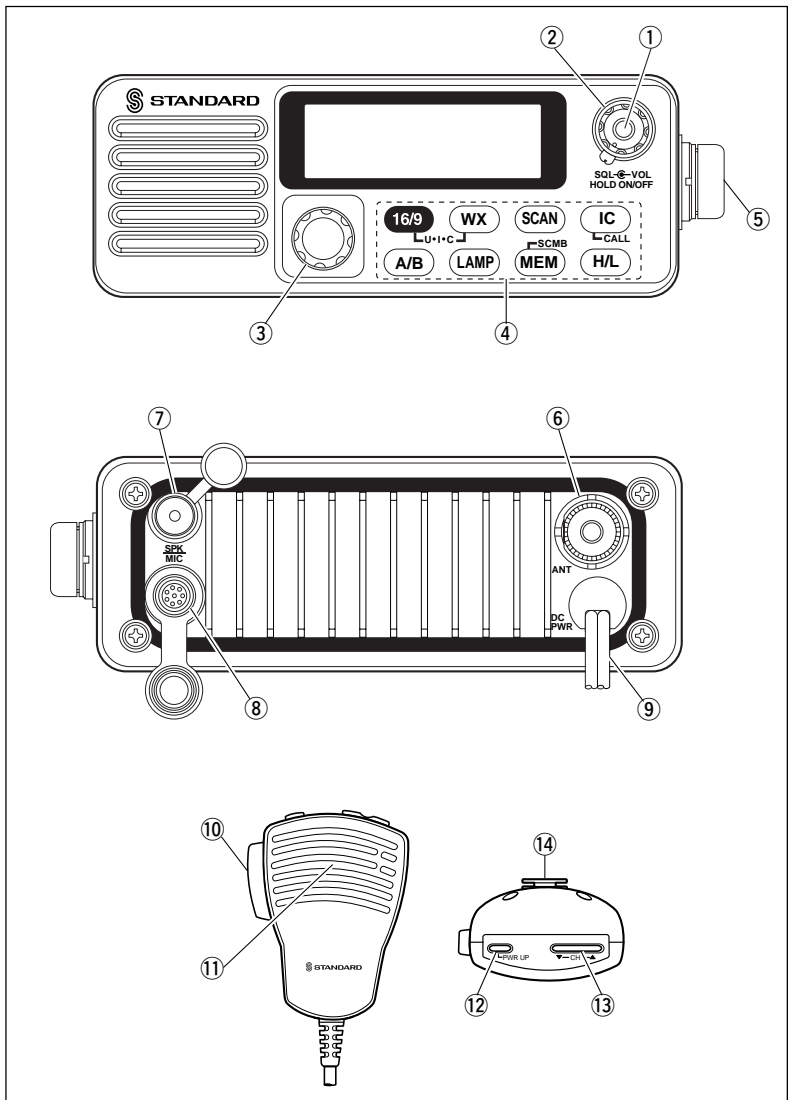
Sets the point at which random noise on the channel does not activate the audio circuits but a received signal does. This point is called the squelch threshold. Further adjustment of the squelch control will degrade reception of wanted transmissions.

### ③ CHANNEL SELECTOR KNOB

Rotary knob used to select channels. The **CH** key on the microphone can also be used to select channels.

#### **Secondary Use**

**While holding down the SCAN Key and rotating the rotary knob, you can confirm memory channels for scanning.**



**Figure 6. Controls and Connectors**

#### ④ KEY PAD

##### **16/9 Key**

Immediately recalls channel 16 from any channel location. Holding down this key recalls channel 9.

##### **Secondary use**

Please see secondary use for the **WX** key and the **MEM** key.

##### **WX Key**

Immediately recalls a weather channel from any channel.

##### **Secondary use**

1. Holding down the **16/9** key while pressing the **WX** key, changes the mode from USA to International or Canadian.
2. **Holding down the WX and SCAN key while turning the power on, resets the microprocessor and erases scan channels from memory.** This clears the memory and establishes the factory-set defaults. For a list of these defaults, see the section on Resetting the Transceiver's Microprocessor.

##### **SCAN Key**

Starts and stops scanning programmed channels. Refer to normal scanning and priority scanning of sections 5.8/5.9 for details of operation. Neither scan will start if no channel has been stored in memory. Look for MEM adjacent to the channel number to see if the channel is in memory (also see **MEM** key).

**IMPORTANT-** There is only one priority channel. However, it can be assigned as one of the following four channels: Ch 09, Ch 16, Ch A, or Ch B. The priority channel is marked with a P on the LCD.

##### **IC Key**

The **IC** key operates when the optional RAM Mic connected. Refer to section 6 for details of operation.

##### **A/B Key**

Immediately recalls two user assigned channels from any channel.

##### **Secondary Use**

1. Holding down the A/B key and pressing the MEM key, deletes the displayed channel A or B.
2. Please see secondary use for Rotary knob.

### **LAMP Key**

Pressing this key, changes the brightness (3 levels) of the back light for LCD and keypad.

### **Secondary use**

During voice scrambler setup (If the optional CVS240 Voice Scrambler module installed), the **LAMP** key is used to deselect a channel that had been selected for voice scrambler use.

### **MEM Key**

Memorizes the selected channel into the transceiver's scan memory for scanning. When pressed again, DELETES the channel from the scan memory.

### **Secondary use**

1. Assigns the priority channel. While holding down the **16/9** key, each press of the **MEM** key will cause the display to toggle through the 4 channels that can be selected as a priority channel: A, B, 16, and 9. When the **16/9** key is released, the channel currently displayed will be the priority channel.
2. The **MEM** key is also used to read Voice Scramble (VS) codes into memory, or delete Voice Scramble (VS) codes from memory (only if the CVS240 scrambler is installed.)

### **H/L Key**

Toggles between high and low power. Does not operate on "low power only" and transmission-inhibit channels. When pressed and held while the transceiver is on channel 13 or 67, the power will temporarily go high. This key has the same function as the **PWR UP** key on the microphone.

### ⑤ MICROPHONE JACK

Connects a microphone to the transceiver.

### ⑥ ANTENNA JACK

Connects an antenna to the transceiver. Use a marine VHF antenna with an impedance of 50 ohms.

### ⑦ EXTERNAL SPEAKER JACK

Connects an external speaker to the transceiver. Use a speaker with an impedance of 4 or 8 ohms, with an RCA phono plug.

### ⑧ RAM MIC CONNECTOR

Connects the remote access microphone RAM Mic. Refer to section 6 for the details of operation.

### ⑨ DC INPUT CABLE

Connects the transceiver to a DC power supply of 13.8 V.

### ⑩ PTT (Push-To-Talk) SWITCH

Keys the transmitter when the transceiver is in radio mode. If the transceiver is in the intercom operation mode, it activates the microphone for the intercom.

### ⑪ SPEAKER/MICROPHONE

Transmits the voice message and also functions as a speaker.

### ⑫ PWR UP KEY

Momentarily selects high power on USA and Canadian channel 13 and USA channel 67 only.

### ⑬ CH KEY

This key has the same function as the Channel Selector knob on the front panel of the transceiver. It can increase or decrease the channel numbers, depending on whether up or down arrow on the key is pressed.

### ⑭ MICROPHONE HANGER

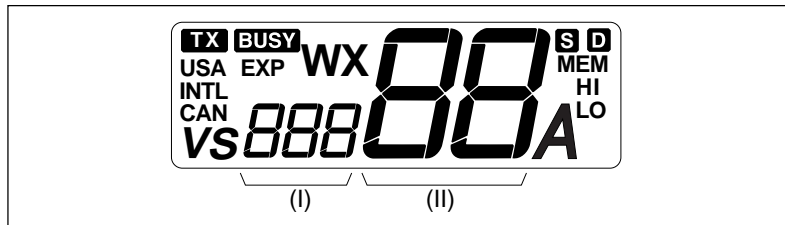
When the microphone is placed on a battery-grounded hanger, the transceiver automatically switches to channel 16. This feature may be disabled by either hanging the microphone in a non-grounded hanger or by performing the following procedure:

- a. Remove the 4 screws on the rear of the microphone and remove the rear case.
- b. Cut or remove the black wire attached to the microphone hanger on the rear case.
- c. Reinstall the rear case.

### NOTE

Microphone Hanger feature is disabled when the RAM Mic is connected.

## 4.2 INDICATORS



### **USA/INTL/CAN Indicator**

Indicates the mode of operation.

### **WX Indicator**

Indicates a weather channel.

### **HI/LO Indicator**

Indicates the power setting. “HI” indicates 25 watts and “LO” indicates 1 watt.

### **S / D Indicator**

Indicates simplex “S” or duplex “D” mode. See Section 5.4.

### **MEM Indicator**

Indicates that the channel is memorized in the transceiver’s memory for scanning.

### **A Indicator**

Indicates a simplex channel in USA or Canadian mode whose counterpart in the International mode is a duplex channel.

### **VS Indicator**

Indicates that the voice scrambler (if installed) is in use.

### **EXP Indicator**

Indicates an expansion channel. Expansion channels are presently not allowed by the FCC. Use of this feature prior to FCC allocation may result in a fine.

### **7-SEGMENT (I) Display**

Indicates the voice scrambler code form “000” to “127” (only when a CVS240 scrambler is installed and activated). Also used to display “P” for priority channel and “A” and “B” for A/B channels.

### **7-SEGMENT (II) Display**

Indicates the channel number in use. In the Intercom mode, indicates “IC”.

## 5.1 RECEPTION

1. After the transceiver has been installed, ensure that the power supply and antenna are properly connected.
2. Press the POWER SWITCH on.
3. Turn the SQUELCH CONTROL knob fully counterclockwise. This state is known as “squelch off”.
4. Turn up the volume until noise or audio from the speaker is at a comfortable level.
5. Turn the squelch control knob until the random noise just disappears. This state is known as the “squelch threshold.”
6. To turn on the backlight for the display, press the **LAMP** key. Each press of the **LAMP** key changes the intensity (bright, dim and off) .
7. Rotate the CHANNEL SELECTOR KNOB to select the desired channel. Refer to the channel chart in the OWNER’S MANUAL SUPPLEMENT for available channels.
8. When a message is received, adjust the volume to the desired listening level. The “BUSY” indicator in the LCD is displayed indicating that the channel is being used.

## 5.2 TRANSMISSION

1. Perform steps 1 through 7 of RECEPTION.
2. Before transmitting, monitor the channel and ensure it is clear. **THIS IS AN FCC REQUIREMENT!**
3. Press the **PTT (push-to-talk) switch**. The TX indicator on the LCD is displayed.
4. Speak slowly and clearly into the microphone, hold the microphone about 1/2 inch away from your mouth.
5. When the transmission is finished, release the **PTT** switch.
6. Refer to the OWNER’S MANUAL SUPPLEMENT for standard transceiver operating procedures.

## 5.3 TRANSMIT TIME - OUT TIMER (TOT)

With the **PTT** switch on the microphone held down, transmit time is limited to 5 minutes. This prevents unintentional transmissions. About 10 seconds before automatic transmitter shutdown, a warning beep will be heard from the speaker(s). The transceiver will then automatically go to receive mode, even if the **PTT** switch is continually held down. Before transmitting again, the **PTT** switch must first be released and then pressed again. Also note that the **PTT** switch is ineffective while the microphone is in its grounded hanger.



## 5.4 SIMPLEX/DUPLEX CHANNEL USE

Refer to the OWNER'S MANUAL SUPPLEMENT 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.

## 5.5 USA, CANADA, AND INTERNATIONAL MODE

1. To change the modes, hold the **16/9** key and press the **WX** key. The mode changes from USA to International to Canada with each press of the **WX** key.
2. "USA" will be displayed on the LCD for the USA mode, "INTL" will be displayed for International mode, and "CAN" will be displayed for Canadian mode.
3. Refer to the OWNER'S MANUAL SUPPLEMENT for allocated channels in each mode.

## 5.6 WEATHER CHANNELS

1. To receive a weather channel, press the **WX** key from any channel. The transceiver will go to the last selected WX channel.
2. Rotate the CHANNEL SELECTOR KNOB, or press the **CH** key on the microphone to go to another weather channel.
3. To exit from the weather channels, press the **WX** key. The transceiver returns to the channel it was on prior to a weather channel.

## 5.7 NORMAL SCANNING

1. Adjust the SQUELCH CONTROL just until background noise disappears.
2. Select a desired channel to be scanned using the **CH** key or CHANNEL SELECTOR KNOB. Press the **MEM** key to program the channel into the transceiver's memory. "MEM" is displayed on the LCD.
3. Repeat step 2 for all the desired channels to be scanned.
4. To review channels programmed into scan memory, press and hold the **SCAN** key and then rotate the channel selector knob. A programmed channel will be displayed with each position change of the channel selector knob.

- To start scanning, press the **SCAN** key. Scanning will proceed from the lowest to the highest programmed channel number and will stop on a channel when a transmission is received.



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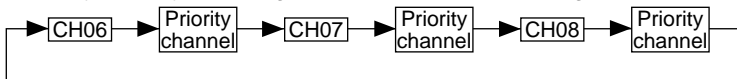
- To stop scanning, press the **SCAN**, **16/9**, **WX**, or **PTT** key.
- To **DELETE** a channel from the transceiver's memory, press the **MEM** key again while the memorized channel is displayed on the LCD. "MEM" will be deleted from the LCD.

## 5.8 PRIORITY SCANNING

- The following channels can be set as the priority channel; 16, 09, and A or B preset channels. To set the priority channel, press and hold the **16/9** key and press the **MEM** key. The channel will change from 16 to 09 to A or B preset channel with each press of the **MEM** key. The displayed channel is set to the priority channel.
- For priority scanning, hold down the **SCAN** key at least 1 second during normal scanning, Scanning will proceed between the memorized channels and the priority channel. The priority channel will be scanned after each programmed channel.



- For example, channels 06, 07, 08 are memorized in the transceiver's memory, Priority scanning will proceed in the following sequence:



- Even when the transceiver stops and listens to the signal of a programmed channel, the transceiver will **DUAL WATCH** between this channel and the priority channel.

## 5.9 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 weather channels. The transceiver is capable of receiving this alert if the following is performed:

1. Program weather channels into the transceiver's memory for scanning. Follow the same procedure as for regular channels under Section 5.6.
2. Press the **SCAN** key once to start memory scanning or hold down the **SCAN** key during memory scanning to start priority scanning.
3. The programmed weather channels will be scanned along with the regular programmed channels. However, scanning will not stop on a normal weather broadcast.
4. When an alert is received on a weather channel, scanning will stop and the transceiver will emit a loud intermittent beep to alert user of a NOAA broadcast.
5. Press the **WX** key to stop the alert tone and receive the weather report.

## 5.10 EMERGENCY CHANNEL 16

1. To select the emergency channel, press the **16/9** key from any channel.
2. Transmit your emergency signal in the same manner as on regular channels. If you cannot contact anyone on channel 16, switch to another channel.
3. To revert to the previous channel from channel 16 press the **16/9** key.
4. See the OWNER'S MANUAL SUPPLEMENT for additional emergency operating practices.

## 5.11 CHANNEL 9

Channel 9 is used as a hailing channel for initial, non-emergency contact with other vessels. Hold down the **16/9** key for 1 second or more to select channel 9.

## 5.12 OPERATING ON CHANNEL 13

Channel 13 is used at docks and bridges and for maneuvering in port. Messages on this channel must concern navigation only, such as meeting and passing in restricted waters. Messages must be short and use low power. In emergencies and when approaching blind river bends, high power is allowed. Press and hold the **PWR UP** key on the microphone or the **H/L** key to temporarily switch to high power.

## 5.13 OPERATING ON CHANNEL 67

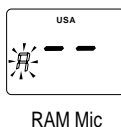
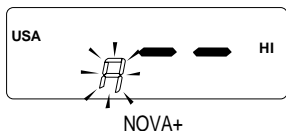
When channel 67 is used for navigational bridge-to-bridge traffic between ships, high power may be temporarily used by pressing and holding the **PWR UP** key on the microphone or the **H/L** key.

## 5.14 CHANNEL A /B INSTANT CALL

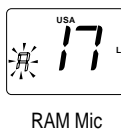
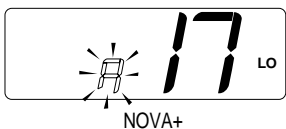
There could be two “calling channels” used by an organization. But USA channels 9 and 16, and WX channels should not be assigned as A or B channels because they are readily available with the **16/9** and **WX** keys. If the **A/B** key is pressed and no channel A has been assigned, the LCD will display— and no channel number will be present.

### 5.14.1 Programming

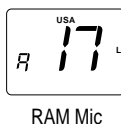
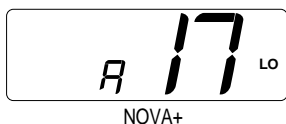
1. Turn on the transceiver.
2. Press the **A/B** key. The blinking letter A will appear on the display, and dashes “—” indicate that no channel has been designated Channel A.



3. Rotate the channel knob until the desired channel number is displayed.



4. With the desired channel number displayed, press the **MEM** key once. The “A” will stop blinking, indicating that the displayed channel is now designated Channel A.



5. Press the **A/B** key again. The blinking letter “b” will appear on the display, and dashes “—” indicate that no channel has been designated Channel B.
6. Rotate the CHANNEL SELECTOR knob until the desired channel number is displayed.
7. With the desired channel number displayed, press the **MEM** key once. The “b” will stop blinking, indicating that the displayed channel is now designated Channel B.

To change A and B channel assignments, perform the following steps:

1. Press and hold the **A/B** key and then press and release the **MEM** key. The "A" will blink and dashes "—" will appear on the display.
2. Release the **A/B** key and set the new channel to be designated Channel A (or leave the channel unassigned).
3. Press the **A/B** key once to recall Channel A. Next press and hold the **A/B** key and press and release the **MEM** key. The "b" will blink and dashes "—" will appear on the display.
4. Release the **A/B** key and set the new channel to be designated Channel B (or leave the channel unassigned).

### 5.14.2 Operation

Pressing the **A/B** key more than once toggles between channel A and channel B. Channel A is represented by "A" to the left of the channel number on the LCD, and channel B is represented by "b". Do not confuse this "A" with the one that sometimes is displayed to the right of the channel number (described in the Display section of this Owner's Manual).

## 5.15 VOICE SCRAMBLER

If privacy of communications is desired, a CVS240 voice scrambler (VS) can be installed in the transceiver. Contact your Dealer or the SCC factory to have a CVS240 installed.

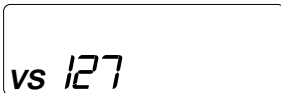
### 5.15.1 Programming

Once a CVS240 is installed in the transceiver, channels to be scrambled can be programmed as follows:

1. Hold down the **LAMP** key and turn on the transceiver.



2. Press the **CH** key or CHANNEL SELECTOR knob to set the VS code (000 to 127).



3. Press the **MEM** key to show the VS channel setting display. (Press the **LAMP** key to return step 2.)



4. Press the **CH** key or CHANNEL SELECTOR knob to select the channel to be scrambled.



5. Press the **MEM** key. "MEM" is displayed on the LCD. The scrambler code is displayed to indicate channel is programmed.



6. Repeat steps 4 and 5 to program other channels to be scrambled. Only one scrambler code can be chosen for all channels programmed. All channels programmed will have the scrambler code set in step 2.
7. Turn off the transceiver after programming is completed.

### 5.15.2 Operation with voice scrambler

1. Turn on the transceiver.



2. Select a channel that was programmed for scrambler mode.

3. Hold down the **MEM** key 1 second to turn the scrambler on. "VS" and the VS code will be displayed to indicate that the scrambler is activated.



4. Monitor the channel before transmitting.
5. Transmit the voice message. The signal sent will be scrambled.

#### NOTE

The transmitted message cannot be reproduced at the receiving end if the receiving transceiver does not have a Standard Communications Corp. voice scrambler installed and programmed. The transmitting and receiving ends must also have matching VS codes.

6. Hold down the **MEM** key to turn the scrambler off.



## 5.16 RESETTING THE TRANSCEIVER'S MICROPROCESSOR

Resetting the microprocessor restores the initial, factory supplied conditions in the transceiver. These are called the default conditions. To reset the microprocessor, first turn the transceiver off. Then while holding the **WX** and **SCAN** keys pressed, turn the transceiver on. The default conditions are:

- No channel numbers are in memory.
- Channel 16 is the priority channel.
- Channel 16 will be selected when the transceiver is turned on.
- WX channel 01 will be recalled when the **WX** key is pressed.
- Channels A and B are unassigned.
- No voice scrambler code is selected.

If the optional RAM Mic (CMP23) is connected to the remote microphone connector on the transceiver's rear panel, then the transceiver can use the remote control operation. The remote control has a maximum range of 50 feet (15 m). The intercom operation can be used between the RAM Mic and the transceiver.

## 6.1 RAM MIC CONTROLS AND CONNECTIONS

### POWER SWITCH (PWR)

Turns the transceiver on and off.

Press and hold down this switch for half a second or more to turn the power on. Press and hold down this switch for half a second or more to turn the power off .

### SQUELCH KEY (SQL)

Activates the squelch adjusting mode.

Press this key to activate the squelch adjusting mode. Press the ▲ or ▼ key to adjust the squelch.

Sets the point at which random noise on the channel does not activate the audio circuits but a received signal does. This point is called "squelch threshold". Further adjustment of the squelch control by pressing the ▲ key will degrade the reception of wanted transmissions.

When the ▼ key is pressed and held down for 1 second or more, the squelch is turned off.

### VOLUME KEY (VOL)

Activates the volume adjusting mode.

Press this key to activate the volume adjusting mode. Press the ▲ or ▼ key to adjust the volume.

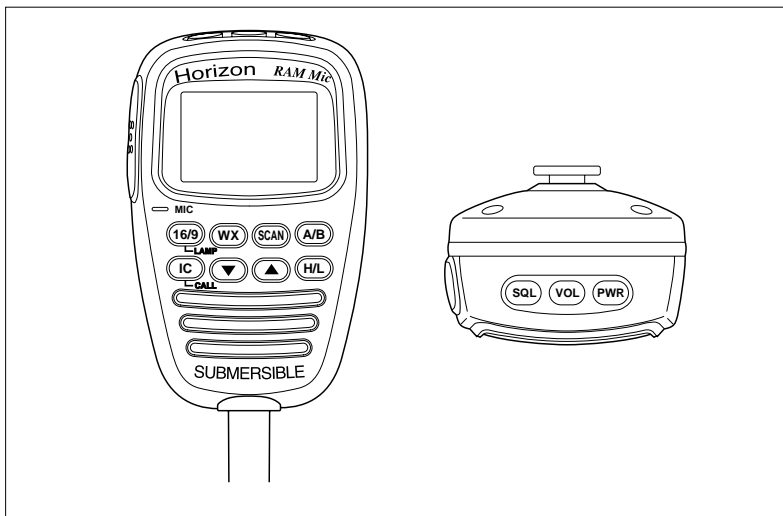
### PTT (Push-To-Talk) SWITCH

Activates transmission.

### 16/9 KEY

Immediately recalls channel 16 from any channel location. Hold down this key for 1 second or more to recall channel 9. Recalls the previous channel when **16/9** key is pressed again. When the **WX** key is pressed and this key is pressed and held down, the mode toggles between USA, International and Canadian.





### **A/B Key**

Immediately recalls two user assigned channels from any channel.

### **IC Key**

Activates the intercom mode between the RAM Mic and the transceiver. Refer to section 6.3 for details of operation.

### **WX KEY**

Immediately recalls a weather channel from any channel location. Recalls the previous channel when **WX** key is pressed again.

#### **Secondary use**

When holding down the **16/9** key while pressing the **WX** key, changes the mode from USA to International or Canadian.

### **SCAN KEY**

Starts scanning programmed channels. Stops the transceiver from scanning when pressed during the scan.

Hold down the **SCAN** key for 1 second or more to program the scan memory. The RAM Mic scan operation is dependent on the transceiver scan selection.

Example: If transceiver is in normal scan mode, then the RAM Mic is in normal scan mode. If the transceiver is in Pscan mode, then the RAM mic is in Pscan mode.

## DOWN KEY (▼)

Selects the desired channel and adjusts the volume and squelch levels. Each press decreases the channel number, volume level and squelch level. When held down, the channels or level decrease continuously.

## UP KEY (▲)

Selects the desired channel and adjusts the volume and squelch levels. Each press increases the channel number, volume level, and squelch level. When held down, the channels or level increase continuously.

### Secondary use

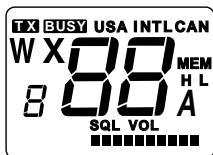
When holding down the **16/9** key while pressing this key, changes the brightness (3 levels) of the back light for LCD.

When holding down the **H/L** key while pressing this key, turns the scrambler on. Press this key again to turn the scrambler off.

## H/L KEY

Toggles between high and low power. To change from low power to high power on Canadian channel 13, USA channel 13 or 67, press and release this key and hold down the **PTT** switch. High power setting is cancelled after transmitting on these channels.

## 6.2 INDICATORS



### Channel Display

Displays the operating channel in both transmission and reception mode.

### A Indicator

A simplex channel in USA or Canadian mode whose counterpart in the International mode is a duplex channel.

### TX/ BUSY Indicator

“TX” is displayed in transmitting mode. “BUSY” is displayed in receiving mode.

### USA/ INTL/ CAN Indicator

The mode of operation. “USA” indicates USA mode. “INTL” indicates International mode and “CAN” indicates Canadian mode.

### WX Indicator

A weather channel.

### MEM Indicator

The channel is in the transceiver’s scan memory.

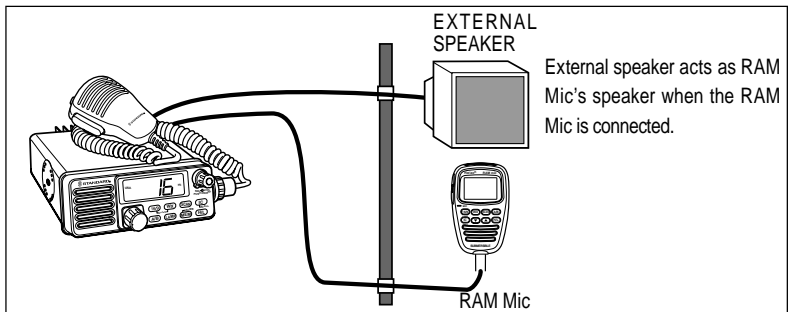
### H/L Indicator

“H” is high power. “L” is low power. Blank is a reception only channel.

### SQL/VOL Indicator

“SQL” is squelch adjusting mode. “VOL” is volume adjusting mode.

## 6.3 INTERCOM OPERATION



### 6.3.1 Communication

1. Press the **IC** key in the radio mode. The mode is changed to the INTERCOM mode. If the **IC** key is pressed again the mode will revert to radio mode.
2. “IC” is displayed on both the transceiver and RAM Mic when the intercom operation is activated.
3. Press the **PTT** switch. The “TX” indicator is displayed.

#### NOTE

A warning beep is emitted when the RAM Mic **PTT** switch is pressed while the transceiver microphone's **PTT** switch is pressed.

4. Speak slowly and clearly into the microphone, hold the microphone about 1/2 inch away from your mouth.
5. When finished, release the **PTT** switch.

### **6.3.2 Calling**

1. Hold down the **IC** key in the intercom operation for 1 second or more. A calling beep is emitted twice from the transceiver speaker.

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

- \* Never key the microphone unless an antenna or suitable dummy load is connected to the transceiver.
- \* Ensure that the supply voltage to the transceiver does not exceed 16 VDC or fall below 11 VDC.

In the unlikely event of serious problems, please contact your SCC Dealer or our repair facility. Address and phone numbers for this facility, as well as warranty information, are contained in your Owner's Manual Supplement.

## 7.1 REPLACEMENT PARTS


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

Standard Communications Corp. Parts Department  
 P.O. Box 92151  
 Los Angeles, CA 90009-2151  
 Telephone 800-366-8431

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

Microphone, White (CMP847W+) .....	MP51000350
Microphone, Black (CMP847B+) .....	MP51000360
Side Connector Cover .....	496C053030
Extra Microphone Connector Cover .....	389B053010
Standard Mounting Bracket, White .....	389B160030
Standard Mounting Bracket, Black .....	389B160020
Standard Mounting Bracket Knob, White .....	414C154022
Standard Mounting Bracket Knob, Black .....	414C154040
Volume Control Knob .....	496C154050
Squelch Control Knob .....	496C154060
Channel Selector Knob .....	174B154010

## 7.2 TROUBLESHOOTING CHART

TROUBLESHOOTING CHART		
SYMPTOM	PROBABLE CAUSE	REMEDY
Transceiver fails to power up.	No DC voltage to the transceiver, or blown fuse.	Check power cable for DC voltage, or replace fuse (6A 250V).
Transceiver blows fuse when connected to power supply.	Reversed power wires.	Make sure the red wire is connected to the positive battery post and the black wire is connected to the negative. If fuse still blows, contact your SCC Dealer.
Popping or whining noise from the speaker while engine runs.	Engine noise.	Reroute the DC power cables away from the engine. Add noise suppressor on power cable. Change to resistive spark plug wires and/or add an alternator whine filter.
External speaker plug does not fit into jack.	Incorrect plug.	The EXT SPKR jack will accept only RCA phono plugs.
Receiving stations report low transmit power, even with transceiver set to HI power.	Antenna.	Have antenna checked or test the transceiver with another antenna. If problem persists, contact your SCC Dealer. SCC for servicing.
<p>"HI" is blinking when the power on is turned on.</p> 	The power supply voltage is too high.	Confirm that the connected power supply voltage is not 24 volts. Confirm that the generator has not malfunctioned.

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

## 8.1 GENERAL

Frequency Range .....	155.025 to 163.275 MHz
Channels .....	65 total: 55 marine + 10 weather
Input Voltage .....	13.8 VDC +/-20%
Current Drain	
Standby .....	0.5A
Receive .....	1.5A
Transmit .....	6A (Hi); 1.7A (Lo)
Dimensions (inches) .....	2.5H x 5 3/4W x 7.5 D
	60 x 145 x 190 mm
Weight .....	1.94 Lb. (0.88 kg)
FCC Type Number .....	APV0597
Industry Canada Type Number .....	363822194ALVC

## 8.2 TRANSMITTER

RF Output .....	25 W (Hi); 1 W (Lo)
Conducted Spurious Emissions .....	65 dB (Hi); 50 dB (Lo)
Audio Response .....	within +2/-8 of a 6 dB/octave pre-emphasis characteristic at 300 to 3000) Hz
Audio Distortion .....	5 %
Modulation .....	16K0F3E
Frequency Stability (-20° to +50°C) .....	+/- 0.0005%
FM Hum and Noise .....	40 dB

## 8.3 RECEIVER

### Sensitivity:

20 dB Quieting .....	0.40 $\mu$ V
12 dB SINAD .....	0.35 $\mu$ V
Squelch Sensitivity (Threshold) .....	0.13 $\mu$ V
Modulation Acceptance Bandwidth .....	$\pm$ 7.5 kHz

### Selectivity:

Spurious and Image Rejection .....	- 70 dB
Intermodulation and Rejection at 12 dB SINAD .....	- 70 dB
Audio Output .....	4 W
Audio Response .....	within + 12/-8 of a 6 dB/octave characteristic at 300 to 3000 Hz
Frequency Stability (-20° to +50°C) .....	$\pm$ 0.001 %
Channel Spacing .....	25 kHz



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