Quest GX1255S

25 Watt VHF/FM Marine Transceiver Owner's Manual

- One-Button DSC Distress Call Automatically Sends Latitude & Longitude and Vessel ID
- Programmable Scan & Priority Ch16 Scan
- NOAA Weather Alert
- Backlit LCD & Keys
- Huge LCD

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Safety / Warning Information

WARNING - DO NOT operate the GX-1255S radio when someone (bystanders) outside the vehicle is within following range.

Safety Training information:

Antennas used for this transmitter must not exceed an antenna gain of 0 dB. The radio must be used in vessel-mount configurations with a maximum operating duty factor not exceeding 50%, in typical Push-to-Talk configurations.

This radio is restricted to occupational use, work related operations only where the radio operator must have the knowledge to control the exposure conditions of its passengers and bystanders by maintaining the minimum separation distance of 0.71 m (2.33 feet).

Failure to observe these restrictions will result in exceeding the FCC RF exposure

limits.

Antenna Installation:

The antenna must be located at least 0.71 m (2.33 feet) away from passengers in order to comply with the FCC RF exposure requirements.

For roof top installation, the antenna must be placed in the center of the roof.

ON-LINE WARRANTY REGISTRATION

Please visit www.standardhorizon.com to register the QUEST 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 QUEST, you can visit the STANDARD HORIZON Web site to send an E-Mail or contact the Product Support team at 562/404-2700 M-F 7:00-5:00PST.

FCC RADIO LICENSE INFORMATION

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

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 (506) and land station licenses can be downloaded via the Internet at www.fcc.gov/forms. To obtain a form from the FCC, call (888) 225-5322.

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 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.

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 GENERAL INFORMATION

1.1 INTRODUCTION

The STANDARD HORIZON GX1255S is a VHF/FM transceiver designed for use in the frequency range of 156.025 to 163.275 MHz. The GX1255S requires 13.8V for operation and has a switchable RF output power of 1 watt or 25 watts.

The transceiver is capable of RTCM SC101 DSC (Digital Selective Calling) operation.

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. NOAA Weather channels can also be accessed immediately by pressing the **WX** key.

Other features of the transceiver include: scanning, priority scanning, submersible mic, high and low voltage warning, and GPS repeatability.

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 16K0G3E, 16K0G2B
Frequency Range ..... 156.025 to 163.275 MHz
FCC Type Number K66GX1255S
Industry Canada Type Approval ..... PENDING

2 ACCESSORIES

2.1 PACKING LIST

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

- GX1255S QUEST Transceiver (with White/Black Microphone)
- Mounting Bracket (with attaching hardware and hanger kit)
- Owner's Manual
- Quick-Reference Card

- Power Cord
- Dust Cover

2.2 OPTIONS

CMB16 ..... Flush-Mount Bracket
101S ..... Mini Extension Speaker
201S ..... Extension Speaker
201SZ ..... Flush Mount Extension Speaker
201SBK ..... Black Extension Speaker
201SBKZ ..... Flush Mount Black Extension Speaker

3 CONTROLS AND INDICATORS

NOTE

This section defines each control of the transceiver. See Figure 1 for location of controls. For detailed operating instructions refer to chapter 4 of this manual.

3.1 CONTROLS AND CONNECTIONS

(1) POWER SWITCH/VOLUME CONTROL

Turns the transceiver on and off as well as adjusts the audio volume.

Turn this control clockwise to turn the radio on and to increase the volume.

Counterclockwise rotation into the click-stop will turn the radio off.

Secondary Use

When the transceiver is turned on while the **SCAN** and **WX** keys are held down, the internal microprocessor is reset. This clears the memory and all user-programmed settings, such as scan memory. 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.

NOTE

Resetting the microprocessor will not erase DSC MMSI and Directory Call information.

(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) KEY PAD

16/9 Key

Immediately recalls channel 16 from any channel location. Holding down this key recalls channel 9. Pressing the **16/9** key again reverts to the previous selected working channel.

Secondary use

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

WX Key

Immediately recalls the previously selected NOAA weather channel from any channel location.

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.

DW Key

Watches for a transmission on CH16 and another selected channel until either signal is received. (Duel watch)

NOTE: When enable the DCS SCANNING feature (see section 7.7 DCS SCANNING), watches for a transmission on CH16, another selected channel, and ***CH70*** until either signal is received (Triple watch).

SCAN Key

1. Starts and stops scanning of programmed channels.
2. If held while the **UP** or **DOWN** key on the microphone are pressed or **UP** or **DOWN** key on radio are pressed, the radio will show the channels in scan memory. This function will not work if the unit is scanning.

NOTE: The priority channel is channel 16 only.

DISTRESS Key

Used to send a DSC Distress Call. To send the distress call see section 6.2 (Sending a Distress Call).

UP and **DOWN** Keys

The **UP** and **DOWN** keys are used to select a desired channel and to select items in the DSC OPERATION and SETUP menus. The **UP** or **DOWN** key on the microphone can also be used to select channels.

CALL/SET Key

The **CALL/SET** key functions as the enter key.

Secondary use

Press the **CALL/SET** key to access the DSC OPERATION menu. The INDIVIDUAL and ALL SHIPS CALLS functions can be accessed from the DSC OPERATION menu.

Press and hold the **CALL/SET** key to access the SETUP menu. The following functions can be accessed in the SETUP menu; LAMP ADJUST, KEY BEEP, WA, INDIV DIR, INDIV RING, TIME SET, USER MMSI, and DSC SCAN.

H/L Key

Toggles between high and low power. When the **H/L** key is pressed while the transceiver is on channel 13 or 67, the power will temporarily switch from LO to HI power until the **PTT** is released. The **H/L** key does not function on transmit inhibited and low power only channels.

Secondary use

Press the **H/L** key to display the Position Data on the LCD, when connected the GPS receiver.

(4) ACCESSORY CONNECTION CABLE

Connects the radio to a GPS, and an external speaker.

(5) DC INPUT CABLE

Connects the radio to a DC power supply of 13.8V

(6) ANTENNA JACK

Connects an antenna to the transceiver. Use a marine VHF antenna with an

impedance of 50 ohms.

(7) 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.

(8) MICROPHONE

Transmits the voice message with reduction of background noise.

(9) **UP**(▲) and **DOWN**(▼) KEYS

The **UP**(▲) and **DOWN**(▼) on the microphone function the same as the **UP** and **DOWN** key on the front panel of the transceiver.

(10) **16/9** Key

Pressing the **16/9** key Immediately recalls channel 16 from any location. Press and hold the **16/9** key to recall channel 9. Pressing the **16/9** key again revert the radio to the previous select channel.

4 INSTALLATION

4.1 LOCATION

The radio can be mounted at any angle. Choose a mounting location that:

- is far enough from any compass to avoid any deviation in compass reading due to the speaker magnet
- 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
- the antenna must be mounted at least 3 feet from radio

4.2 ELECTRICAL CONNECTIONS

CAUTION: Reverse 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 2):

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 PL259 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 wire to a 13.8 VDC ±20% power source. Connect the black power wire to a negative ground.
3. If an optional remote extension speaker is to be used, refer to section 4.3 for connections.
4. It is advisable to have a Certified Marine Technician check the power output and the standing wave ratio of the antenna after installation.

4.3 ACCESSORY CABLE

White: External speaker (+)
Yellow: External speaker (–)
Blue: NMEA IN (+) from GPS navigation receiver
Green: NMEA IN (–) from GPS navigation receiver

When connecting the external speaker or GPS navigation receiver, strip off about 1 inch (2.5 cm) of the specified wire's insulation.

NOTE: Never short wires. This may lead to malfunctions.

4.4 OPTIONAL CMB16 FLUSH MOUNT INSTALLATION

1. Make a rectangular template for the flush mount measuring 2" H x 5-5/8" W.
2. Use the template to mark the location where the rectangular hole is to be cut. Confirm the space behind the dash or panel is deep enough to accommodate the transceiver (at least 6 inches deep).
   There should be at least 1/2 inch between the transceiver's heatsink and any wiring, cables or structures.
3. Cut out the rectangular hole and insert the transceiver.
4. Fasten the brackets to the sides of the transceiver with the lock washer nut combination, so that the mounting screw base faces the mounting surface (see Figure 3).
5. Turn the adjusting screw to adjust the tension so that the transceiver is tight against the mounting surface.

5 BASIC OPERATION

5.1 RECEPTION

1. After the transceiver has been installed, ensure that the power supply and antenna are properly connected.
2. Turn the **VOL/PWR** knob clockwise to turn on the radio.
3. Turn the **SQL** knob fully counterclockwise. This state is known as “squelch off”.
4. Turn up the **VOL/PWR** knob until noise or audio from the speaker is at a comfortable level.
5. Turn the **SQL** knob clockwise until the random noise disappears. This state is known as the “squelch threshold.”
6. Press the **UP** or **DOWN** key to select the desired channel. Refer to the channel chart on page xx for available channels.
7. 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 6 of RECEPTION.
2. Before transmitting, monitor the channel to ensure it is clear. THIS IS A 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.
5. When the transmission is finished, release the **PTT** switch.

   NOTE: This is a noise-canceling microphone. The oval slot on the top of microphone should be positioned within 1 inch (2.5 cm) from the mouth for optimum performance.
6. Refer to page xx for standard transceiver operating procedures.

5.3 TRANSMIT TIME - OUT TIMER (TOT)

When the **PTT** switch on the microphone is 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 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.

5.4 SIMPLEX/DUPLEX CHANNEL USE

Refer to the VHF MARINE CHANNEL CHART (page xx) 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 Canadian with each press of the **WX** key.
2. USA will be displayed on the LCD for USA mode, INTL will be displayed for International mode, and CAN will be displayed for Canadian mode.
3. Refer to the VHF MARINE CHANNEL CHART (page xx) for allocated channels in each mode.

5.6 NOAA WEATHER CHANNELS

1. To receive a NOAA weather channel, press the **WX** key from any channel. The transceiver will go to the last selected weather channel.
2. Press the **UP** or **DOWN** key on the microphone to select a different NOAA weather channel.
3. To exit from the NOAA weather channels, press the **WX** key. The transceiver returns to the channel it was on prior to a weather channel.

5.7 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 transceiver is capable of receiving this alert if the following is performed:

1. Program NOAA weather channels into the transceiver's memory for scanning. Follow the same procedure as for regular channels under Section 5.8.
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 NOAA weather channels will be scanned along with the regular-programmed channels. However, scanning will not stop on a normal weather broadcast unless a NOAA alert is received.

4. 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.
5. Press the **WX** key to stop the alert tone and receive the weather report.

NOTE: If the **WX** key is not pressed the alert tone will be emitted for 5 minutes and then the weather report will be received.

5.8 MEMORY SCANNING (M-SCAN)

NOTE

- During scanning, the dot matrix area of the LCD will show M-SCAN or P-SCAN depending on the scan mode selected.
- If position is displayed this icon will be hidden.

1. Adjust the **SQL** knob until background noise disappears.
2. Select a desired channel to be scanned using the **UP** or **DOWN** key.
   Press and hold the **SCAN** key, MEM will appear on the LCD which indicates the channel has been programmed into the transceivers memory.
3. Repeat step 2 for all the desired channels to be scanned.
4. To DELETE a channel from the transceiver's memory, press and hold the **SCAN** key, MEM will disappear in the LCD.
5. 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.
6. The channel number will blink during reception.
7. To stop scanning, press the **SCAN**, **16/9**, **WX**, or **PTT** key.

5.9 PRIORITY SCANNING (P-SCAN)

1. The priority channel is set to channel 16.
2. For priority scanning during M-SCAN, press and hold the **SCAN** key, until P-SCAN appears in the LCD. Scanning will proceed between the memorized channels and the priority channel. The priority channel will be scanned after each programmed channel.
3. The scanning will be performed while receiving the MEM CH (memorized channel).
4. To stop scanning, press the **SCAN**, **16/9**, **WX**, or **PTT** key.

NOTE:

Triple watch (T/W) means the radio is watching CH70 for DSC Calls.

Dual watch (D/W) means the radio is not watching CH70 for DSC Calls.

5.10 POSITION INDICATION

The transceiver has the ability to display the vessel's position (LAT/LON) for Confirmation the data, if connected to a GPS receiver.

1. Displays position information, during press and hold the **H/L** key
   If the GPS receiver receives no signal, the display will be as shown in the illustration.
2. To hide the position information, release the **H/L** key.

5.11 TIME INDICATION

The transceiver has the ability to display the TIME on the upper side, if connected to a GPS receiver.

NOTE: The TIME OFFSET should be set to local time in the DSC/RADIO setup mode when the radio is connected the GPS navigation receiver. To adjust TIME OFFSET to your local time, refer to section 7.11 TIME OFFSET.

5.11 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 pressing the **WX** and **SCAN** keys, turn the transceiver on. The default conditions are:

- No channels in SCAN memory.
- Channel 16 will be selected when the transceiver is turned on.
- WX channel 01 will be recalled when the WX key is pressed.
- Key beep will be on.

NOTE: Resetting the microprocessor will not erase DSC MMSI and Directory information.

6 DIGITAL SELECTIVE CALLING

6.1 GENERAL

6.1.1 Digital Selective Calling (DSC)

Digital Selective Calling is a semi-automated method of establishing a radio call, it has been designated by the International Maritime Organization (IMO) as an international standard for establishing VHF, MF and HF radio calls. It had also been designated as part of the Global Maritime Distress and Safety System (GMDSS). It is planned that

DSC will eventually replace aural watches on distress frequencies and will be used to announce routine and urgent maritime safety information broadcasts.

This new system will allow mariners to instantly send a distress call with GPS position (when connected to the transceiver) to the US Coast Guard and other vessels within range of the transmission. DSC will also allow mariners to initiate or receive distress, urgency, safety routine, POS Request, POS Send and Group calls to or from another vessel equipped with a DSC transceiver.

6.1.2 Maritime Mobile Service Identity (MMSI)

What is an MMSI?

An MMSI is a nine digit number used on Marine Transceiver capable of using Digital Selective Calling (DSC). This number is used like a telephone number to selectively call other vessels. Refer to section 7.9 (USER MMSI INPUT).

How can I obtain a MMSI assignment?

Contact your dealer or Standard Horizon for details.

WARNING: This radio is designed to generate a digital maritime distress and safety call to facilitate search and rescue. To be effective as a safety device, this equipment must be used only within communication range of a shore-based VHF marine channel 70 distress and safety watch system. The range of signal may vary but under normal conditions should be approximately 20 nautical miles.

6.2 SENDING A DISTRESS CALL

The distress call automatically includes the vessel's DSC MMSI and Lat/Lon position. Refer to section 7.9 (USER MMSI INPUT). The vessel's position can be sent only if the transceiver is properly connected to an operating GPS receiver.

1. Lift the red spring loaded DISTRESS cover and press the **DISTRESS** key. The "DISTRESS" icon will appear on the LCD.
2. Press and hold the **DISTRESS** key for 3 seconds or more. Count down the holding time on the LCD.
3. When the distress signal is sent, "TX" icon will appear on the LCD. After the message has been sent, the Distress Alarm will sound.
4. The transceiver "shadow-watches" for a transmission between CH16 and CH70 until an acknowledgment signal is received. "RECEIVED ACK" will scroll on the LCD.

5. If no acknowledgment is received, the distress call is repeated in 3.4 to 4.5 minute intervals until an acknowledgment is received.
6. To cancel a Distress Call, pressing the **UP** or **DOWN** key until the “CANCEL” icon appear. Then, press the **CALL/SET** key or turn off the radio.
7. When a distress acknowledgment is received, a distress alarm sounds and channel 16 is automatically selected.
8. To cancel the alarm, press any key.

NOTE: When a GPS receiver with NMEA output is connected, the vessel’s position is automatically transmitted with the distress call.

6.3 SENDING AN INDIVIDUAL CALL

This feature allows the user to contact another user vessel DSC and to automatically switch the receiving DSC radio to a desired working channel. This feature is similar to calling a vessel on CH16 and requesting to go to a another channel. To send an individual call, see section 7.5 (INDIVIDUAL DIRECTORY SETUP). The individual call function allows you to transmit a DSC signal to a specific party only, prompting communication on a voice channel.

1. Select the traffic channel for voice communication.
2. Press the **CALL/SET** key. The “INDIVIDUAL” icon will appear on the LCD.
3. Press the **CALL/SET** key again. The individual address will appear.
4. Press the **UP** or **DOWN** key to select the individual you want to contact.
5. Press the **CALL/SET** key to transmit the individual DSC signal.
6. After INDIVIDUAL CALL is transmitted, the transceiver will wait 8 seconds for the acknowledgment. If the reply signal is not received, the transceiver will transmit again.
7. After the second INDIVIDUAL CALL is transmitted, if the reply signal is not received, “NO REPL” icon will appear on the LCD to prompt the user to send the call again or exit the mode.
8. When an individual call acknowledgment “able to comply” is received, the established channel is automatically selected and an alarm sounds.
9. When an individual call acknowledgment with “unable to comply” is received, the established channel is automatically selected.
10. To cancel, pressing the **UP** or **DOWN** key until the “EXIT” icon appear. Then press the **CALL/SET** key.

    This procedure can be also canceled as follows;

    Press the **WX** or **16/9** key.

6.4 SENDING AN ALL SHIPS CALL

The All Ships Call function allows contact to be established with other vessel stations without having their ID in the individual calling directory.

Also, priority for the call can be designated as Urgency, Safety or Routine.

URGENCY Call: This type of call is used when a vessel may not truly be in distress, but have a potential problem that may lead to a distress situation.

SAFETY Call: Used to transmit boating safety information to other vessels.

This message usually contains information about an overdue boat, debris in the water. Loss of a navigation aid or an important meteorological message.

1. Select the traffic channel (for voice communication).
2. Press the **CALL/SET** key. The "INDIVID" icon will appear on the LCD.
3. Press the **DOWN** key to select the "ALL SHIP."
4. Press the **CALL/SET** key again.
5. Press the **UP** or **DOWN** key to select the nature of call ("URGENCY," "SAFETY" or "ROUTINE").
6. Press the **CALL/SET** key to transmit the selected type of ALL SHIPS DSC call. When "ROUTINE" is selected, the signal is transmitted then the transceiver will wait on the channel selected in step 1.
7. After the ALL SHIPS CALL is transmitted, the transceiver will wait on CH16 except ROUTINE.

6.5 RECEIVING DSC CALLS

Several types of DSC transmissions can be received. The required action depends on the particular DSC type as outlined in the following examples.

NOTE: If the radio is receiving on a working channel or transmitting on a working channel, DSC calls will not be received.

6.5.1 Receiving a distress call

1. A distress call is received. An emergency alarm sounds.
   Then channel 16 is automatically selected.
2. Press any key to stop the alarm.
3. Press the **UP** or **DOWN** key to select the receiving distress data:

- RECEIVED DISTRESS
- MMSI
- TIME (UTC)
- Latitude
- Longitude

NOTE: If the received distress data does not include the position data, "NO POSITION DATA" will scroll on the LCD.

NOTE: You must continue monitoring channel 16 as a coast station may require assistance in any rescue attempt.

6.5.2 Receiving a distress relay call

1. A distress relay call is received. An emergency alarm sounds.
   Then channel 16 is automatically selected.
2. Press any key to stop the alarm.

NOTE: You must continue monitoring channel 16 as a coast station may require assistance in any rescue attempt.

6.5.3 Receiving an all ships call

1. An all ships call is received. An emergency alarm sounds.
   Then channel 16 is automatically selected.
2. Press any key to stop the alarm.
3. Monitor channel 16 or traffic channel until the URGENCY communication is completed.

6.5.4 Receiving a geographical area call

1. A geographical call is received. An emergency alarm sounds (different from DISTRESS). Then the requested channel from the other ship is automatically selected.
2. Press any key to stop the alarm.
3. Monitor the traffic channel for an announcement from the calling ship.

NOTE: This feature is only available when a GPS receiver is connected.

6.5.5 Receiving an individual call

When receiving an individual call, an acknowledgment must be sent back to the calling station.

1. An individual call is received. An individual call alarm sounds. Then the radio

automatically switches to the requested channel.

2. Press any key to stop the alarm.
3. Press the **PTT** on the microphone and talk to the calling ship.

7. DSC / RADIO SETUP MODE

7.1 LAMP ADJUSTING

1. Press and hold down the **CALL/SET** key until the "RADIO S" appears.
2. Press the **CALL/SET** key, then press the **UP** or **DOWN** key to select "LAMP" item.
3. Press the **CALL/SET** key to enable adjusting this item.
4. Press the **UP** or **DOWN** key to select the desired level.
   3: High
   2: Mid
   1: Low
   0: OFF
5. Press the **CALL/SET** key to store the selected level.
6. Press the **UP** or **DOWN** key to select "EXIT," then press the **CALL/SET** key to return to the normal operation.

7.2 KEY BEEP (ON or OFF)

1. Press and hold down the **CALL/SET** key until the "RADIO SETUP" appears.
2. Press the **CALL/SET** key, then press the **UP** or **DOWN** key to select "BEEP" item.
3. Press the **CALL/SET** key to enable adjusting this item.
4. Press the **UP** or **DOWN** key to select "on" or "oF (off)."
5. Press the **CALL/SET** key to store the selected setting.
6. Press the **UP** or **DOWN** key to select "EXIT," then press the **CALL/SET** key to return to the normal operation.

7.3 WEATHER ALERT (ON or OFF)

1. Press and hold down the **CALL/SET** key until the "RADIO SETUP" appears.
2. Press the **CALL/SET** key, then press the **UP** or **DOWN** key to select "WX ALT" item.
3. Press the **CALL/SET** key to enable adjusting this item.
4. Press the **UP** or **DOWN** key to select "on" or "oF (off)."
5. Press the **CALL/SET** key to store the selected setting.
6. Press the **UP** or **DOWN** key to select "EXIT," then press the **CALL/SET** key to return to the normal operation.

7.4 TIME OFFSET

Sets the time difference between local time and UTC. Time is displayed, if connected GPS receiver.

1. Press and hold down the **CALL/SET** key until the "RADIO SETUP" appears.
2. Press the **CALL/SET** key, then press the **UP** or **DOWN** key to select "TIME" item.
3. Press the **CALL/SET** key to enable adjusting this item.
4. Press the **UP** or **DOWN** key to select "Time Offset" form UTC.
   NOTE: See illustration below to find your offset time from UTC. If 0:00 is assigned, the time is the same as UTC (Universal Time Coordinated or GMT Greenwich Mean Time)
5. Press the **CALL/SET** key to store the time offset.
6. Press the **UP** or **DOWN** key to select "EXIT," then press the **CALL/SET** key to return to the normal operation.

7.5 INDIVIDUAL DIRECTORY SETUP (DSC)

1. Press and hold down the **CALL/SET** key until the "RADIO SETUP" appears.
2. Press the **UP** or **DOWN** key to select "DSC SETUP".
3. Press the **CALL/SET** key, then press the **UP** or **DOWN** key to select "INDIVIDUAL" item.
4. Press the **CALL/SET** key to enable setting this item.
5. Press the **CALL/SET** key again.
6. , then press the **UP** or **DOWN** key to select "Time Offset" form UTC.
7. **NOTE**: See illustration below to find your offset time from UTC. If 0:00 is assigned, the time is the same as UTC (Universal Time Coordinated) or GMT (Greenwich Mean Time)
8. Press the **CALL/SET** key to store the time offset.
9. Press the **UP** or **DOWN** key to select "EXIT," then press the **CALL/SET** key to return to the normal operation.

7.6 INDIVIDUAL RING

1. Press and hold down the **CALL/SET** key until the "RADIO SETUP" appears.
2. Press the **UP** or **DOWN** key to select "DSC SETUP."
3. Press the **CALL/SET** key, then press the **UP** or **DOWN** key to select "INDIVID" item.

4. Press the **CALL/SET** key to enable setting this item.
5. Press the **UP** or **DOWN** key to select ringing time of a INDIVIDUAL CALL.
   3: 3 minutes continuously
   2: 15 times
   1: 10 times
   0: 5 times
6. Press the **CALL/SET** key to store the selected ringing time.
7. Press the **UP** or **DOWN** key to select "EXIT," then press the **CALL/SET** key to return to the normal operation.

7.7 DSC SCANNING

The radios software has been updated to improve DSC Channel 70 SCANNING:

- When a DSC call is received the radio will only show Channel 70 on the display if the call was directed to the radios MMSI or if it is a Distress or All ships DSC call.
- Selection to turn ON or OFF the DSC SCAN function.

When the radio is shipped from the factory it is programmed so CH70 (the DSC channel) is scanned at all times. A selection has been added to the SETUP MENU in the radio to disable the DSC SCAN. However, turning off DSC SCAN will disable the radio from receiving DSC calls i.e.: Individual Call, All Ships Call, Distress Call and Position Requests. If you want to use any of the functions the selection should be left ON.

TO CHANGE DSC SCAN METHOD:

1. Press and hold down the **CALL/SET** key until the "RADIO SETUP" appears.
2. Press the **UP** or **DOWN** key to select "DSC SET."
3. Press the **CALL/SET** key, then press the **UP** or **DOWN** key to select "DSC SCAN" item.
4. Press the **CALL/SET** key to enable setting this item.
5. Press the **UP** or **DOWN** key to select "on" or "oF (off)."
6. Press the **CALL/SET** key to store the selected setting.
7. Press the **UP** or **DOWN** key to select "EXIT," then press the **CALL/SET** key to return to the normal operation.

7.8 USER MMSI INPUT

1. Press and hold down the **CALL/SET** key until the "RADIO S" appears.
2. Press the **UP** or **DOWN** key to select "DCS SET."

3. Press the **CALL/SET** key, then press the **UP** or **DOWN** key to select "MMSI" item.
4. Press the **CALL/SET** key to enable setting this item.
5. Press the **UP** or **DOWN** key to select first number of your MMSI, then press the **CALL/SET** key to define the setting.
6. Repeat above step to set your MMSI (up to 9 digits).
7. When the last number of your MMSI is in place, press and hold the **CALL/SET** key to store your MMSI.
8. Press the **UP** or **DOWN** key to select "EXIT," then press the **CALL/SET** key to return to the normal operation.

8 OPERATING PRACTICES

8.1 EMERGENCY (CHANNEL 16 USE)

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 microphone 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 navigation 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 microphone button and listen.
10. If there is no answer, repeat the above procedure. If there is still no response, try another channel.

8.2 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 microphone's push-to-talk (**PTT**) 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; see your Owner's Manual.

8.3 MAKING TELEPHONE CALLS

To make a radiotelephone call, use a channel designated for this purpose, The fastest way to learn which channels are used for radiotelephone traffic is to ask at a local marina. Channels available for such traffic are designated ***Public Correspondence***

channels on the channel charts in this manual. Some examples for USA use are Channels 24, 25, 26, 27, 28, 84, 85, 86, and 87. Call the marine operator and identify yourself by your vessel's name, The marine operator will then ask you how you will pay for the call (telephone credit card, collect, etc.) and then link your radio transmission to the telephone lines.

The marine telephone company managing the VHF channel you are using may charge a link-up fee in addition to the cost of the call.

8.4 OPERATING ON CHANNELS 13 AND 67

Channel 13 is used at docks and 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 7 (H/L key) for means to temporarily override the low-power limit on these two channels.

8.5 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).

8.6 NOAA WEATHER ALERT TESTING

In the event of a major storm or other appreciable weather condition requiring vessels at sea or other bodies of water to be notified, the NOAA (National Oceanographic and Atmospheric Administration) broadcasts a 1050 Hz tone that some marine VHF radios can detect. (Refer to Section 5.7 “NOAA WEATER ALERT” on how to use this feature.) This tone, when detected, will produce a loud beep from the radio speaker to signal that a weather alert is being broadcast.

In order to test this system, the NOAA broadcasts the 1050 Hz tone every Wednesday, sometime between 11 AM and 1 PM. Any marine VHF radio that can detect the weather alert tone, may use this test to verify that this feature is functioning properly.

8.7 DIGITAL SELECTIVE CALLING (DSC)

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

This new service will allow mariners to instantly send a distress call with GPS position (when connected to the transceiver) to the US Coast Guard and other vessels within range of the transmission. DSC will also allow mariners to initiate or receive distress, urgency, safety and routine calls to or from another vessel equipped with a DSC transceiver.

8.7.1 USCG DSC Watch

The USCG has plans to upgrade its VHF National Distress System (expected by 2005), so at the time of printing only larger vessels that are required to carry VHF DSC radios will be able to hear your distress transmission.

8.8 MARITIME MOBILE SERVICE IDENTITY (MMSI)

8.8.1 What is a MMSI?

A MMSI is a nine digit number used on Marine Transceivers capable of using Digital Selective Calling (DSC). This number is used like a telephone number to selectively call other vessels.

8.9 USING DIGITAL SELECTIVE CALLING FEATURES

8.9.1 Distress Call

Transmits a DSC Distress message to all radios equipped to receive a DSC Distress call. Some Standard Horizon radios may be connected to a GPS to also transmit the Latitude, Longitude of the vessel.

8.9.2 Individual Call

This feature allows the user to contact another vessel capable of using DSC and automatically switch the radio to a desired working channel. This feature is similar to calling a desired vessel on CH16 and requesting them to go to another channel.

8.9.3 Urgency Call

This call should be used when a vessel may not be truly in distress, but have a potential problem that might lead to a distress situation.

8.9.4 Safety Call

Used to transmit boating safety information to other vessels. This message usually contains information about an overdue boat, a derelict afloat, loss of a navigation aid or an important meteorological message.

8.10 ADDITIONAL DIGITAL SELECTIVE CALLING INFORMATION

For additional information the USCG has an excellent site that should be visited at www.navcen.uscg.mil/marcoms/gmdss/dsc.html.

8.11 ABOUT VHF RADIO

The radio frequencies used in the VHF marine band lie between 156 and 158 MHz with some shore stations available between 161 and 163 MHz. The marine VHF band provides communications over distances that are essentially “line of sight” (VHF signals do not travel well through objects such as buildings, hills or trees). Actual transmission range depends much more on antenna type, gain and height than on the power output of the transmitter. On a fixed mount 25W radio transmission expected distances can be greater than 15 miles, for a portable 5W radio transmission the expected distance can be greater than 5 miles in “line of sight”.

8.12 SELECTING AN ANTENNA

Marine antennas are made to radiate signals equally in all horizontal directions, but not straight up. The objective of a marine antenna is to enhance the signal toward the horizon. The degree to which this is accomplished is called the antenna’s gain. It is measured in decibels (dB) and is one of the major factors in choosing an antenna. In terms of effective radiated power (ERP), antennas are rated on the basis of how much gain they have over a theoretical antenna with zero gain. A 3 foot, 3dB gain antenna represents twice as much gain over the imaginary antenna. The length of the antenna you choose, however, must also be related to the size of your boat.

Typically a 3 foot 3dB gain stainless steel whip is used on a sailboat mast. The longer 8 foot 6dB fiberglass whip is primarily used on power boats that require the additional gain.

8.13 COAXIAL CABLE

VHF antennas are connected to the transceiver by means of a coaxial cable – a shielded transmission line. Coaxial cable is specified by it's diameter and construction.

For runs less than 20 feet, RG-58/U, about 1/4 inch in diameter is a good choice. For runs over 20 feet but less than 50 feet, the larger RG-8 or RG-213/U should be used for cable runs over 50 feet RG-8 should be used. For installation of the connector onto the coaxial cable refer to the figure below.

To get your coax cable through a fitting and into your boat's interior, you may have to cut off the end plug and reattach it later. You can do this if you follow the directions that come with the connector. Be sure to make good soldered connections.

9 MAINTENANCE

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

- Keep the microphone connected or the jack covered at all times to prevent corrosion of electrical contacts;
- Never key the microphone unless an antenna or suitable dummy load is connected to the transceiver.
- Ensure that the supply voltage to the transceiver does not exceed 16 VDC or fall below 11 VDC.
- Use only STANDARD HORIZON-approved accessories and replacement parts.

In the unlikely event of serious problems, please contact your Dealer or our repair facility. Address and phone numbers for this facility, as well as warranty information, are contained in section 11 WARRANTY.

9.1 REPLACEMENT PARTS

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

Marine Division of Vertex Standard

US Headquarters

17210 Edwards Rd., Cerritos, CA 90703

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

9.2 FACTORY SERVICE

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

Standard Horizon Factory Service

115 North Wright Brothers Drive

Salt Lake City, UT 84116-2838

Telephone (800) 366-4566

Fax No. (801) 359-4122

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

9.3 TROUBLESHOOTING CHART

TROUBLESHOOTING CHART		
SYMPTON	**PROBABLE CAUSE**	**REMEDY**
Transceiver fails to power up.	No DC voltage to the transceiver, or blown fuse.	Rotate the **VOL/PWR** knob clockwise to turn on the transceiver. Check the power cable for DC voltage, or replace the 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 (-) battery post. If the fuse still blows, contact your Dealer.
Popping or whining noise from the speaker while engine runs.	Engine noise.	Reroute the DC power cables away from the engine. Add noise suppressor on power cable. Change to resistive spark plug wires and/or add an alternator whine filter.
Sound is not emitted from the external speaker.	External cable.	Check the polarity of the connected external cable.
Receiving station report low transmit power, even with transceiver set to HI power.	Antenna.	Have the antenna checked or test the transceiver with another antenna. If the problem persists, contact your Dealer for servicing.
"HI BATTEY" or "LOW BATTERY" message is scrolled when the power is turned on.	The power supply voltage is too high or too low.	Confirm that the connected power supply voltage is not . confirm that the generator has not malfunctioned.

Your position is not displayed.	External cable.	Check the polarity of the connected external cable. Some GPS use the battery ground line for NMEA connection.
	Setting of the GPS navigation receiver.	Check the output signal format of the GPS navigation receiver. This radio requires NMEA0183 format with GLL sentence as an output signal. If the GPS has a baud rate setting make sure to select 4800 and parity to NONE.

9.4 CONNECTION OF GPS WITH NMEA OUTPUT

Manufacturer/Model	Wires	QUEST
STANDARD HORIZON CP150, CP160 and CP-170C	Green	Brown/Green
	Blue	Gray
	Brown	Blue
Furuno GP30, 36	White	Blue
	Blue	Green
Furuno GP1650, 1850	White	Blue
	Black	Green
Garmin Fixed Mounts	Blue	Blue
	Black (gound)	Green
Germin Portables	Blue	Blue
	Black (ground)	Green
JRC GPS500	Yellow	Blue
	Green	Green
JRC 100 SERIES	Green	Blue
	Black	Green
JRC 200 SERIES	White	Blue
	Black	Green
Lowrance Fixed Mount	White	Blue
	Black (ground)	Green
Lowrance Portable	Orange	Blue
	Black (ground)	Green
Magellan Fixed Mount	Gray	Blue
	Black (ground)	Green
Magellan Portable	Orange	Blue
	Black (ground)	Green
Northstar	Yellow	Blue
	Black (ground)	Green
Raytheon 420	Yellow	Blue
	Brown	Green
Raytheon 520 / 620	Blue	Blue
	Brown	Green
Raytheon RL SERIES	White	Blue
	Brown	Green
Simrad	White	Blue
	Brown	Green
Sitex Neptune, Nautilus	Gray	Blue
	Brown	Green

Additional Information:

- The GPS must have the NMEA Output turned on and set to 4800 Baud in the setup menu. If there is a selection for parity select none.

- For further information on interfacing /setting up your GPS. Please contact the manufacturer of the GPS receiver.
- QUEST is corresponded with following NMEA sentence:
    - NMEA-0183 version 2.0 or higher
    - GLL, GGA, RMC and GNS (RMC sentence is recommended)

If you have further inquires, please feel free to contact us at:

Phone: (800) 767-2450

Fax: (562) 926-24597

Web site: standardhorizon.com

Email: marinetech@vxstdusa.com

10. CHANNEL ASSIGNMENTS

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

1. VTS. Where indicated, these channels are part of the U.S. Coast Guard's **V**essel **T**raffic **S**ystem.
2. Alpha channel numbers, that is, channel numbers followed by the letter A (such as Channel 07**A**) are ***simplex*** channels on the U.S.A. or Canadian channel assignments whose counterparts in the International assignments are ***duplex*** channels. International channels do not use "alpha" numbers. If you call the Coast Guard on Channel 16, they will sometimes ask you to "***go to channel 22 Alpha***." This is a channel assigned to U.S.A, and Canadian Coast Guards for handling distress and other calls. If your radio is set for ***International*** operation you will go to Channel 22 instead of 22**A**, and will not be able to communicate with the Coast Guard. To use Channel 22**A**, your radio must be set for ***USA*** or ***Canada*** operation, usually by a U/I/C (USA/International/Canada) control or combination of controls. Channel 22 (without an "A") is an ***International*** duplex channel for port operations. Some radios indicate an "A" adjacent to the alpha channels on the display; on others "alpha" is not indicated but the proper channel is selected based on the U/I/C setting.
3. Bridge-to-Bridge channels (for example, Channel 13) are for use by bridge operators on intercoastal 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. See page xx for

additional information.

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.***

11. WARRANTY

Marine Products Limited Warranty

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

Fixed Mount and Portable Transceivers

1 year - if purchased before 01/01/91

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

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

Loud hailers

1 year - if purchased before 01/01/91

3 years - if purchased after 01/01/91

Associated Chargers

1 year - if purchased before 01/01/91

3 years - if purchased after 01/01/91

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

Associated Accessories - 1 year. Includes: Microphones/Handsets, External

Speakers, Antennas, Carrying Accessories, Power Supplies, and Signaling Boards.

To receive warranty service, the purchaser must deliver the Product, transportation and insurance prepaid, to STANDARD HORIZON (a division of VERTEX STANDARD), 115 North Wright Brothers Dr, Salt Lake City, Utah 84116-2838. Include proof of purchase indicating model. serial number, and date of purchase. STANDARD HORIZON will return the Product to the purchaser freight prepaid. Products purchased prior to January 1, 1991 will bear the STANDARD HORIZON warranty terms in effect prior to that date.

In the event of a defect, malfunction or failure of the Product during the warranty period, STANDARD HORIZON's liability for any breach of contract or any breach of express or implied warranties in connection with the sale of Products shall be limited solely to repair or replacement, at its option, of the Product or part(s) therein which, upon examination by STANDARD HORIZON, appear to be defective or not up to factory specifications. STANDARD HORIZON may, at its option, repair or replace parts or subassemblies with new or reconditioned parts and subassemblies. Parts thus repaired or replaced are warranted for the balance of the original applicable warranty.

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

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

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

This limited warranty does not extend to any Product which has been subjected to misuse, neglect, accident, incorrect wiring by anyone other than STANDARD HORIZON, improper installation, or subjected to use in violation of instructions furnished by STANDARD HORIZON, nor does this warranty extend to Products on which the serial number has been removed, defaced, or changed. STANDARD

HORIZON cannot be responsible in any way for ancillary equipment not furnished by STANDARD HORIZON which is attached to or used in connection with STANDARD HORIZON's Products, or for the operation of the Product with any ancillary equipment, and all such equipment is expressly excluded from this warranty. STANDARD HORIZON disclaims liability for range, coverage, or operation of the Product and ancillary equipment as a whole under this warranty. STANDARD HORIZON reserves the right to make changes or improvements in Products, during subsequent production, without incurring the obligation to install such changes or improvements on previously manufactured Products.

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

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

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

ON-LINE WARRANTY REGISTRATION

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

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

Product Support Inquiries

If you have any questions or comments regarding the use of the QUEST, you can visit the STANDARD HORIZON Web site to send an E-Mail or contact the Product Support team at 562/404-2700 M-F 7:00-5:00PST.

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).

12 SPECIFICATIONS

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

12.1 GENERAL

Channels ..... All USA, International and Canadian

Input Voltage ..... 13.8 VDC ±20%

Current Drain

- Standby 0.5A
- Receive 1.5A
- Transmit ..... ??A (Hi); ??A (Lo)

Dimensions ..... ?" H x ?" W x ?" D (?? H x ?? W x ?? D mm)

Flush-Mount Dimensions ..... ?" H x ?" W x ?" D (?? H x ?? W x ?? D mm)

Weight ..... ?? lbs (?? kg)

12.2 TRANSMITTER

Frequency Range ..... 156.025 to 157.425 MHz
RF Output ..... 25 W (Hi); 1 W (Lo)
Conducted Spurious Emissions ..... 80 dB (Hi); 60 dB (Lo)
Audio Response ..... within +1/-3 of a 6 dB/octave pre-emphasis characteristic at 300 to 3000 Hz
Audio Distortion ..... 5 %
Modulation ..... 16K0G3E, for DSC 16K0G2B
Frequency Stability (-20°C to +50°C) ..... ±0.0005%
FM Hum and Noise ..... 50 dB

12.3 RECEIVER

Frequency Range ..... 156.050 to 163.275 MHz
Sensitivity
- 20 dB Quieting ..... 0.35 µV
- 12 dB SINAD ..... 0.25 µV

Squelch Sensitivity (Threshold) ..... 0.13 µV
Modulation Acceptance Bandwidth ..... ±7.5 kHz
Selectivity:
- Spurious and Image Rejection ..... -70 dB
- Intermodulation and Rejection at 12 dB SINAD ..... -70 dB

Audio Output ..... 4 W
Audio Response ..... within + 2/–8 of a 6 dB/octave de-emphasis characteristic at 300 to 3000 Hz
Frequency Stability (-20°C to +50°C) ..... ±0.0005 %
Channel Spacing ..... 25 kHz
DSC Format Spacing RTCMSC101

Marine Division of Vertex Standard
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