

 **STANDARD HORIZON**

HX270E

VHF/FM Marine
Handheld Transceiver

Owner's Manual

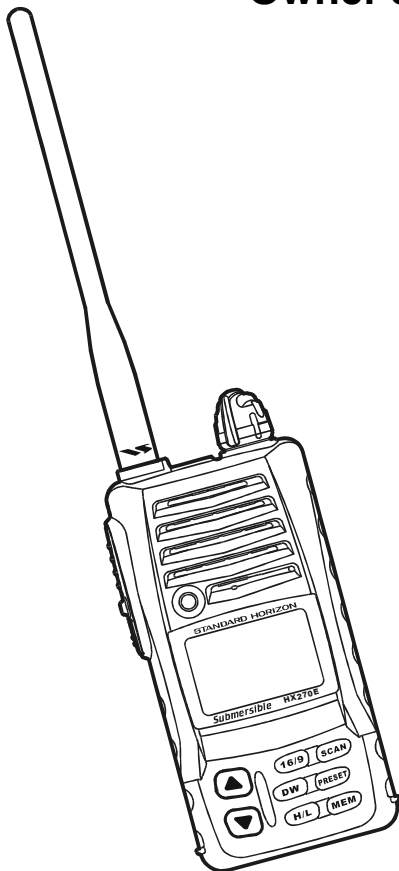


TABLE OF CONTENTS

1. GENERAL INFORMATION	2	5.5 USA, CANADIAN, AND INTERNATIONAL BANDS	15
2. ACCESSORIES	3	5.6 SCAN	15
2.1 PACKING LIST	3	5.7 PROGRAMMABLE PRIORITY SCAN	16
2.2 OPTIONS	3	5.8 DUAL WATCH	16
3. BATTERY	4	5.9 EMERGENCY (CHANNEL 16 USE)	17
3.1 BATTERY CHARGING	4	5.10 CALLING ANOTHER VESSEL (CHANNEL 16 OR 9)	17
3.2 BATTERY REMOVAL/ INSTALLATION	4	5.11 OPERATING ON CHANNEL 13	18
3.3 USING THE NC-88 BATTERY CHARGER	5	5.12 OPERATING ON CHANNEL 67	18
3.4 FBA-25A ALKALINE BATTERY CASE	5	5.13 PRESET CHANNELS (1 ~ 8): INSTANT ACCESS	19
3.5 BATTERY SAFETY	6	5.14 SIMPLEX/DUPLEX CHANNEL USE	19
4. CONTROLS AND INDICATORS	7	5.15 SETUP MODE	20
4.1 CONTROLS AND CONNECTIONS ...	8	6. MAINTENANCE	22
4.2 INDICATORS	10	7. CHANNEL ASSIGNMENTS	24
5. OPERATION	12	8. SPECIFICATIONS	26
5.1 INITIAL SETUP	12		
5.2 RECEPTION	13		
5.3 TRANSMISSION	14		
5.4 TRANSMIT TIME-OUT TIMER (TOT)	14		

RF Exposure Safety Statement

SAFETY INFORMATION

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

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

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

If you use a headset accessory for this radio, with the radio worn on your body, use only the STANDARD HORIZON belt clip for this transceiver, and ensure that the antenna is at least 1 inches (2.5 centimeters) from your body when transmitting.

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

Congratulations on your purchase of the **HX270E**! Whether this is your first portable marine VHF transceiver, or if you have other STANDARD HORIZON equipment, the STANDARD HORIZON organization is committed to ensuring your enjoyment of this high-performance transceiver, which should provide you with many years of satisfying communications even in the harshest of environments.

We appreciate your purchase of the **HX270E**, and encourage you to read this manual thoroughly, so as to learn and understand the capabilities of the **HX270E** fully.

ABOUT VHF MARINE 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. The approximate distance a portable 5W radio may communicate is about 5 miles in if there are no obstructions (buildings, hills etc.) restricting line of sight transmission.

Attention in Case of Use

This transceiver works on frequencies which are not generally permitted. For frequency allocation, apply for a licence at your local spectrum management authority. For actual usage contact your dealer or sales shop in order to get your transceiver adjusted to the allocated frequency range.

List of the practicable area

AUT	BEL	DNK	FIN
FRA	DEU	GRC	ISL
IRL	ITA	LIE	LUX
NLD	NOR	PRT	ESP
SWE	CHE	GBR	

1. GENERAL INFORMATION

1.1 INTRODUCTION

The **HX270E** is a submersible, miniature 5-Watt portable two-way VHF marine transceiver. The transceiver has all allocated USA, international, or Canadian channels. It has an emergency channel 16 which can be immediately selected from any channel by pressing the **16/9** key.

The transceiver includes the following features: Memory Scanning, Programmable Priority Scanning, Battery Saver, easy-to-read large LCD display, EEPROM memory back-up, Battery Life displayed on LCD, and a transmit Time-Out Timer (TOT).

The transmitter provides a maximum of 5 Watts output, and has the selection of 2.5 Watts and 1 Watt to assist the user in ensuring maximum battery life.

2. ACCESSORIES

2.1 PACKING LIST

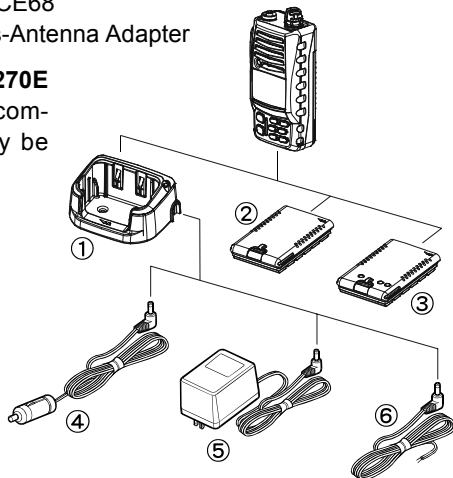
When the package containing the transceiver is first opened, please check it for the following contents:

- **HX270E** Transceiver
- **FNB-83** 7.2 V, 1400 mAh Ni-MH Battery Pack
- **NC-88C/U** 230 VAC Overnight Charger
- **CD-26** Charger Cradle
- **FBA-25A** Alkaline Battery Case
- **CAT460** Antenna
- **E-DC-19A** DC Cable with 12 V Cigarette Lighter Plug
- **CLIP-14** Belt Clip with screw
- **Owner's Manual**

2.2 OPTIONS

- ① **CD-26** Charger Cradle
- ② **FBA-25A** Alkaline Battery Case
- ③ **FNB-83** 7.2 V, 1400 mAh Ni-MH Battery Pack
- ④ **E-DC-19A** DC Cable with 12 V Cigarette Lighter Plug
- ⑤ **NC-88B/C/U** 120 or 230 VAC Overnight Charger
- ⑥ **E-DC-6** DC Cable; plug and wire only
- VAC-370B/C/U** Rapid Charger
- CE68** PPS Software
- CT-111** Cable SET for CE68
- CAW230** Radio-to-Ship's-Antenna Adapter

Note: Before operating the **HX270E** for the first time, it is recommended that the battery be charged.



3. BATTERY

The **FNB-83** is a high performance rechargeable battery providing high capacity in a compact package.

3.1 BATTERY CHARGING

If the radio has never been used, or its charge is depleted, it may be charged by connecting the **NC-88** battery charger (see figure 2 on page 5). If 12V DC power is available, the optional **E-DC-6** or the **E-DC-19A** DC adapter with cigarette plug may be used for charging the battery. The **NC-88**, **E-DC-6** and **E-DC-19A** will charge a completely discharged **FNB-83** battery pack in about 10 hours.

3.2 BATTERY REMOVAL/INSTALLATION

1. Turn the transceiver off.
2. To remove, open the Battery Pack Latch on the bottom of the transceiver, then slide the battery downward and out from the transceiver.
3. To install, insert the battery pack into the battery compartment on the back of the transceiver, then close the Battery Pack Latch until it locks in place with a “click.”

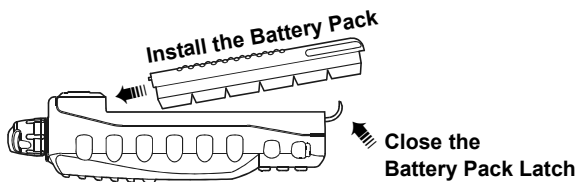


Figure 1

Important Notice

To avoid the ingress of water between the transceiver body and battery pack/case, close the Battery Pack Latch until it locks in place with a “click” while pressing and holding the battery pack/case in toward the top panel (secure the upper edge of the battery pack/case snugly against the upper edge of the battery nest).

3.3 USING THE NC-88 BATTERY CHARGER

1. Install the supplied **FNB-83** battery pack on the rear of the **HX270E**. Ensure that the transceiver is switched off.
2. Plug the **NC-88** Overnight Charger into the AC line outlet, then insert the cable plug into the jack located on the side panel of the **CD-26** Charger Cradle.
3. Insert the transceiver and battery pack into the **CD-26**; the antenna jack should be at the left side when viewing the charger from the front.
4. If the transceiver and battery pack are inserted correctly, the Red indicator on the **CD-26** will glow. A fully-discharged pack will be charged completely in 10 hours.

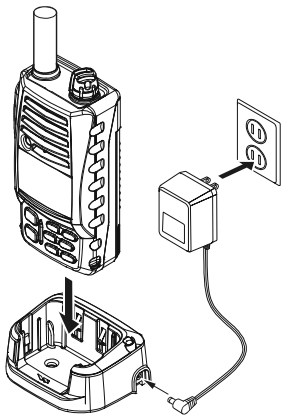


Figure 2

Important Notes:

- The **NC-88** is not designed to power the transceiver for operation (reception or transmission).
- Do not leave the charger connected to the transceiver for continuous periods in excess of 24 hours. Long term overcharging can degrade the Ni-MH battery pack and significantly shorten its useful life.
- If using a charger other than the **NC-88/CD-26**, or if using a battery pack other than the **FNB-83**, follow the appropriate instructions provided with the charger/battery. Contact your Dealer if you have any doubts about the appropriateness of the particular charger or battery pack you intend to use.

3.4 FBA-25A Waterproof Alakline Battery Tray

FBA-25A is a battery case that holds six alkaline batteries and is used with the **HX270E** transceiver.

When installing batteries, insert the (-) end first, then press in the (+) end so the battery snaps into place. Always replace all six batteries at the same time, paying attention to the polarity indicated inside the case.



The FBA-25A must not be used with rechargeable cells. The FBA-25A does not contain the thermal and over-current protection circuits (provided in the "FNB" series of Ni-MH Battery Packs) required when utilizing Ni-Cd and Ni-MH cells.

3.5 BATTERY SAFETY

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

DO NOT SHORT BATTERY PACK TERMINALS

Shorting the terminals that power to the transceiver can cause sparks, severe overheating, burns, and battery cell damage. If the short is of sufficient duration, it is possible to melt battery components. Do not place a loose battery pack on or near metal surfaces or objects such as paper clips, keys, tools, etc. When the battery pack is installed on the transceiver, the terminals that transfer current to the transceiver are not exposed.

DO NOT INCINERATE

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



Never short-circuit the connection terminals on the battery or charger !



CONTAINS NICKEL-METAL-HYDRIDE BATTERY.
MUST BE RECYCLED OR DISPOSED OF PROPERLY.

4. CONTROLS AND INDICATORS

NOTE

This section defines each control of the transceiver. For detailed operating instructions, refer to section 5 of this manual. Refer to Figure 3 for the location of the following controls, indicators, and connections.

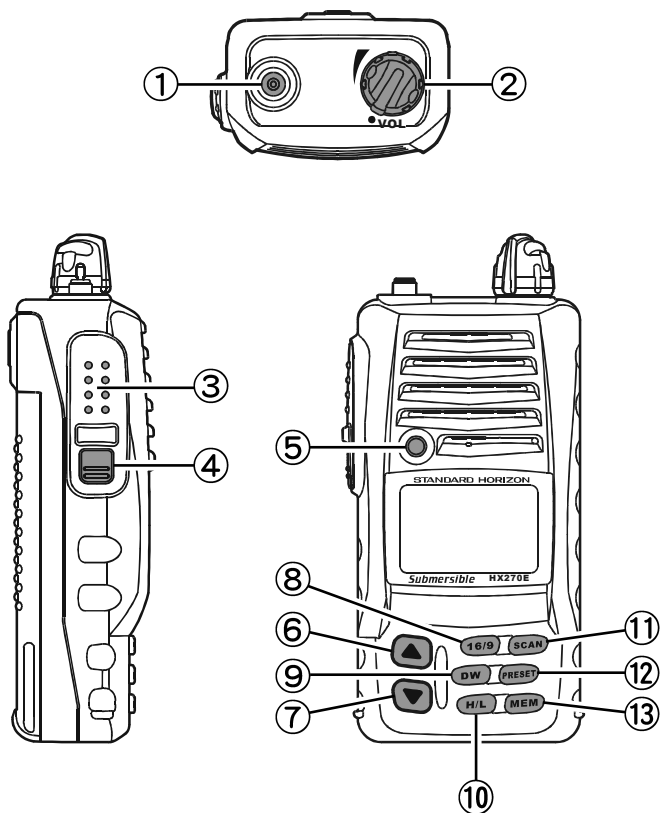


Figure 3
Controls and Connectors

4.1 CONTROLS AND CONNECTIONS

① Antenna Connector

The supplied **CAT460** flexible antenna is attached here.

② POWER SWITCH/VOLUME CONTROL

Turns the transceiver on and off, and adjusts the volume.

③ PUSH-TO-TALK (**PTT**) SWITCH

Activates transmission.

④ SQUELCH (**SQL**) SWITCH

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 the reception of wanted transmissions.

⑤ BUSY/TX INDICATOR

This indicator glows **green** when a signal is being received and **red** when transmitting.

⑥ UP (▲) KEY

Used to select a desired channel. Each press increases the channel number. When held down, the channels increase continuously.

⑦ DOWN (▼) KEY

Used to select a desired channel. Each press decreases the channel number. When held down, the channels decrease continuously.

⑧ **16/9** KEY

Immediately recalls channel 16 from any channel location. Holding down this key recalls channel 9. The 16/9 key is also used to revert to the channel selected before pressing the 16/9 key.

Example: select Ch68, press 16/9 key (Ch16 appears), press the 16/9 key again and Ch68 is shown.

⑨ **DW KEY**

Press the DW key, scan for voice communications on the priority channel and another selected channel until a signal is received on either channel (Dual Watch). Refer to section “5.8 DUAL WATCH” for details.

⑩ **H/L KEY**

Toggles the transmitter power level between High (5 Watts), Medium (2.5 Watts), and Low (1 Watt) of output. Does not operate on “low power only” and transmission-inhibit channels.

When operating on Canadian channel 13, or USA channels 13 or 67, pressing this key momentarily toggles the power level from Low power to Medium or High power.

Hold down this key to lock the displayed channel functions (except the **H/L**, **PTT**, and **SQL** keys) so that they are not accidentally changed. The key lock symbol “**On**” will appear, to indicate that the functions are locked. Hold down until the key lock symbol “**On**” disappears to unlock the radio.

⑪ **SCAN KEY**

Starts scanning and Priority scanning of programmed channels. When scanning, press and hold this key to turn on and off Priority scan (**P** is shown on the left side of the display during Priority scanning).

⑫ **PRESET KEY**

Immediately recalls one of up to eight user preset memories for operation (shown as **1-8** on the LCD). Pressing this key repeatedly scrolls through the preset memory channels.

⑬ **MEM KEY**

Press to select a channel for scanning. Press this key again to delete a memorized channel. (“**MEM**” appears on the LCD display during memory operation).

4.2 INDICATORS

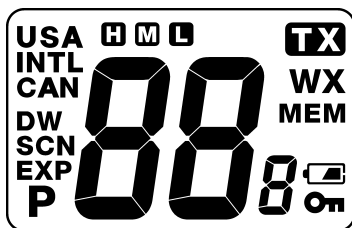


Figure 4
Indicators

Channel Display

The operating channel is shown on the LCD in both the transmission and reception modes.

A Indicator

Signifies ship-to-ship channels in USA or Canadian mode (whose counterpart in the International mode is a public correspondence (marine operator) channel).

USA/INTL/CAN Indicator

Denotes the “band” of operation for the particular channel. “USA” indicates the USA band; “CAN” indicates the Canadian band; and “INTL” indicates the International band.

H/M/L Indicators

“H” indicates High power (5 Watts); “M” indicates Medium power (2.5 Watts); and “L” is for Low power (1 Watt). “Blank” in this location indicates a receive-only channel.

P Indicator

Ch16 Priority Scan is activated.

DW Indicator

Dual watch is activated.

SCN Indicator

Scan is activated.


TX Indicator




Appears during transmission.

MEM Indicator

The channel is in the transceiver's "Scan Memory."


Battery Indicator

When the battery charge is almost depleted, a "" icon will appear on the display. When this icon appears, it is recommended that you charge the battery soon.

No Icon	Enough battery power
	Lower battery power
	Nearing depletion
 (Blinking)	Prepare to charge the battery

NOTE: The battery indicator should be used only as a guide in charging the **FNB-83** battery.

KEY Lock Indicator

When the "" symbol is shown on the LCD, all keys are disabled except for the **H/L**, **PTT** and **SQL** keys.

5. OPERATION

5.1 INITIAL SETUP

1. Install the belt clip on the transceiver, if desired.
2. Install the battery pack on the transceiver (see figure 1 and section 3.2).
3. Install the antenna onto the transceiver.

NOTE

Water resistance of the transceiver is assured only when the battery pack and antenna are attached to the transceiver.

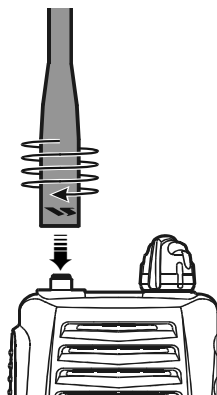


Figure 5
Antenna Installation

Installing the Quick Draw Belt Clip

1. Connect the hanger to the rear of the **HX270E**, with the notch pointing directly up, using the supplied screw (Figure 6-a).

Use only the screw included with the clip to mount the clip to the back of the transceiver!

2. Clip the Quick Draw Belt Clip to your belt (Figure 6-b).
3. To install the **HX270E** into the Quick Draw Belt Clip, align the hanger with the Quick Draw Belt Clip and slide the **HX270E** into its slot until a click is heard.
4. To remove the **HX270E** from the Quick Draw Belt Clip, Rotate the **HX270E** 180 degrees, then slide the transceiver out from the Quick Draw Belt Clip (Figure 6-c).

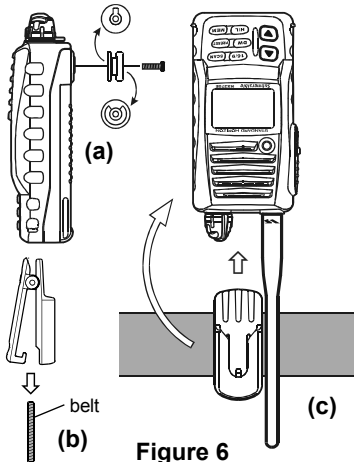


Figure 6

5.2 RECEPTION

1. Turn the **POWER/VOLUME CONTROL** knob clockwise to turn the transceiver on.
2. Press the **SQL** key, then press the [▼] key until the SQL level is **00**.
3. Turn up the **POWER/VOLUME CONTROL** knob until the noise or audio from the speaker is at a comfortable level.
4. Select a channel that has no signal being received (no one is transmitting on the channel) and where only noise is heard.
5. Press the **SQL** key, then press the [▲] key and stop immediately after the noise disappears. This condition is known as the “Squelch Threshold.” If the squelch is set to a higher level, weak signals may not be received.
6. To change channels, press the [▲] or [▼] key.
7. The LCD and keypad are illuminated for 5 seconds when any key is pressed. The lamp automatically turns off in 5 seconds.
8. To “lock” the channel so that it is not accidentally changed, hold down the **H/L** key for about one second. This locks the [▲] and [▼] buttons and all the front panel controls except the **H/L**, **PTT** and **SQL** keys. The “**On**” symbol will appear on the display to indicate that the keypad is locked. Hold down the **H/L** key for about one second to unlock the keys. The “**On**” symbol will disappear from the display.



5.3 TRANSMISSION

NOTE

Never key the transceiver without an antenna connected, as this may cause damage to the transceiver.

1. Perform steps 1 through 7 of the RECEPTION discussion above.
2. Before transmitting, monitor the channel and make sure it is clear.
3. For communications over short distances, press the **H/L** key until “**L**” is displayed on the LCD. This indicates Low power (approximately 1 Watt).

NOTE

Transmitting on 1 Watt prolongs battery life. Low power (1 Watt) should be selected whenever possible.

4. If using Low power is not effective, select Medium power (2.5 Watts) or High power (5 Watts) by pressing the **H/L** key until “**M**” (Medium power) or “**H**” (High power) is displayed.



5. When receiving a signal, wait until the incoming signal stops before transmitting. The transceiver cannot transmit and receive simultaneously.
6. Press the **PTT** (Push-To-Talk) switch to transmit. The “**TX**” indicator is displayed during transmission.
7. Speak slowly and clearly into the microphone. Hold the microphone about ½ to 1 inch away from your mouth.
8. When the transmission is finished, release the **PTT** switch.

5.4 TRANSMIT TIME - OUT TIMER (TOT)

The **HX270E** is capable of PC programming TRANSMIT TIME - OUT TIMER (TOT) by a dealer. Contact your dealer for further details.

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

5.5 USA, CANADIAN, AND INTERNATIONAL BANDS

1. To change the operating band (channel set) of the transceiver, hold down the **16/9** key and press the **DW** key. The band will change from USA, to International, and to Canadian with each press.
2. “**USA**” appears on the LCD for the USA band, “**INTL**” appears for the International band, and “**CAN**” appears for the Canadian band.



5.6 SCAN

This transceiver provides a special “Scanning Memory Bank” which allows you to designate certain channels for inclusion in a “loop” which will be scanned at high speed. If an incoming signal is detected on one of the channels in the scanning loop, the radio will pause on that channel, allowing you to listen to the incoming transmission.

1. Select the desired channel to be included in the scanning loop using the [▲] or [▼] key.
2. Press the **MEM** key to store the channel into the transceiver’s scanning memory. “**MEM**” will be displayed on the LCD.
3. Repeat steps 1 and 2 for all the channels to be scanned.
4. To delete a channel from the transceiver’s scan memory, press the **MEM** key again while the memorized channel is displayed. “**MEM**” will disappear from the display.
5. All channels programmed remain in the transceiver’s scan memory even if the power is turned off.
6. Press the **SQL** key, then press the [▲] or [▼] key until background noise is eliminated.
7. To start scanning, press the **SCAN** key. The scan proceeds from the lowest to the highest programmed channel number and stops on channels when a transmission is received. Scanning will resume when the squelch closes after the incoming signal disappears at the end of the transmission.
8. To stop the scan, press the **SCAN**, **16/9**, or **DW** key.



5.7 PROGRAMMABLE PRIORITY SCAN

The priority scanning feature allows the radio to scan while also keeping watch on a particularly important “priority channel.” The following channels can be set as the priority channel: 16, 09, and Preset Channels 1 through 8 (Preset Channels are described in section 5.13).

1. To set the priority channel, hold down the **16/9** key and press the **MEM** key. The channel will change from 16 to 09 to Preset 1 to Preset 2 to Preset 3 to Preset 4 to Preset 5 to Preset 6 to Preset 7 to Preset 8 with each press of the **MEM** key. The displayed channel will be set as the priority channel when the **16/9** key is released.
2. For priority scanning, hold down the **SCAN** key during normal scanning. Scanning will proceed between the memorized channels and the priority channel. The priority channel will be scanned after each programmed channel. “**P**” is shown on the left side of the channel number during priority scanning.
3. As an example of priority scanning, let us say that channels 06, 07, and 08 are memorized in the transceiver’s scan memory. Priority scanning will proceed in the following sequence:

[CH06] ➡ [Priority Channel] ➡ [CH07] ➡ [Priority Channel] ➡
➡ [CH08] ➡ [Priority Channel] ➡ [CH06] ➡ [Priority Channel]

4. 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. Therefore, your priority watching of the designated channel is not compromised when the scanner has paused on an active channel.

5.8 DUAL WATCH

The Dual Watch feature allows the radio to watch for a transmission on the priority channel and another selected Marine channel until a signal is received. The priority channel is determined per the discussion in section 5.7 “PROGRAMMABLE PRIORITY SCAN” as described previously.

1. To start the Dual Watch feature, select a channel to be dual watched with the priority channel and press and hold in the **DW** key. The radio checks the priority channel for voice traffic every one second. A small “**DW**” icon will be shown blinking on the left of the display during scanning.
2. To cancel the Dual Watch feature, press the **DW** key.



5.9 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 PTT (push-to-talk) switch and say “**Mayday, Mayday, Mayday**”. This is _____, _____ ” (your vessel’s name).
2. Then repeat once: “**Mayday**, _____ ” (your vessel’s name).
3. Now report your position in latitude/longitude, or by giving a true or magnetic bearing (state which) to a well-known landmark such as a 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 you desire (pumps, medical aid, etc.).
6. Report the number of persons aboard and condition of any injured.
7. Estimate the present seaworthiness and condition of your vessel.
8. Give your vessel’s description: length, design (power or sail), color and other distinguishing marks. The total transmission should not exceed 1 minute.
9. End the message by saying “**OVER**”. Release the PTT (push-to-talk) switch and listen.
10. If there is no answer, repeat the above procedure. If there is still no response, try another channel.
11. To recall the previously-selected channel, press the **16/9** key again.

5.10 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.

5.11 OPERATING ON CHANNEL 13

Channel 13 is used at docks, bridges and for maneuvering in port. Messages on this channel must concern navigation only, such as meeting and passing in restricted waters. In emergencies and when approaching blind river bends, High power is allowed. Pressing the **H/L** key will change the power output from 1 Watt (**L**) to 5 Watts (**H**); if pressed again, 2.5 Watts (**M**) will be selected. When the **PTT** switch is released, the transceiver will revert to Low power. Press the **H/L** key again if you need High power on a subsequent transmission.

5.12 OPERATING ON CHANNEL 67

When channel 67 is used for navigational bridge-to-bridge traffic between ships, High or Medium power may be used temporarily (in the USA band) by pressing the **H/L** key. When the **PTT** switch released, the transceiver will revert to low power.

5.13 PRESET CHANNELS (1 ~ 8): INSTANT ACCESS

Eight user-assigned channels can be programmed for instant access.

5.13.1 Programming

1. Hold down the **PRESET** key, and press the [▲] or [▼] key (repeatedly, if necessary) until the desired channel number (from among the regular operating channels) is displayed.
2. With the desired channel number displayed, release the **PRESET** key. The “1” notation will appear on the LCD display for 1 second, indicating that the displayed channel is now saved in the Preset Channel “1” position. Then the preset channel number will disappear and the display comes back to the normal channel display.



Repeat steps 1 and 2 to program the desired channels into Preset Channels 1 ~ 8.

To delete a Preset Channel, hold down the **PRESET** key and press the [▲] or [▼] key until the Preset Channel number to be deleted is displayed, then release the **PRESET** key.

5.13.2 Operation

Pressing the **PRESET** key toggles between Preset Channel 1, 2, 3, 4, 5, 6, 7, 8 and the last selected “regular” channel. Preset Channel 1 is represented by “1” to the right of the channel number on the LCD for 1 second, and channel 2 is represented by “2,” and so forth. Then the preset channel number will disappear and the display comes back to the normal channel display.

5.14 SIMPLEX/DUPLEX CHANNEL USE

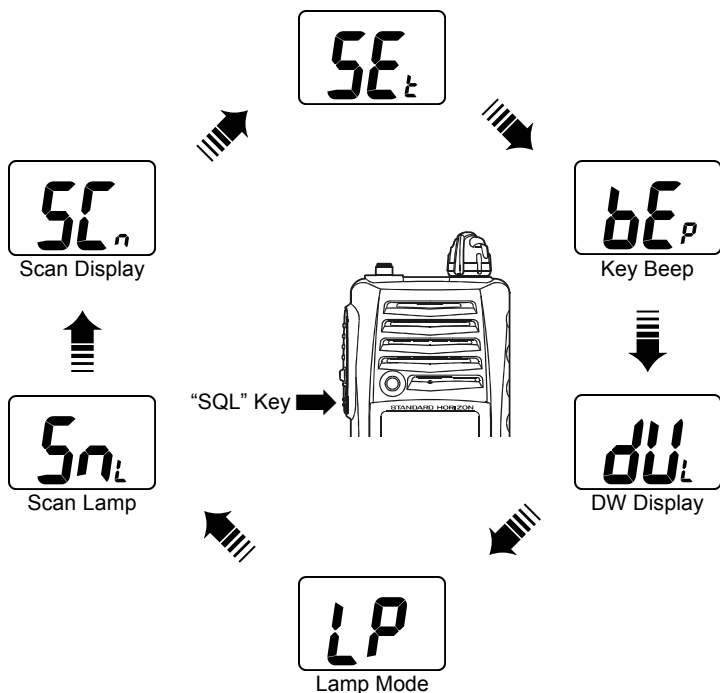
All channels are factory-programmed in accordance with FCC (USA), Industry Canada and International regulations. The mode of operation cannot be altered from simplex to duplex or vice-versa. Simplex or duplex mode is automatically activated, depending on the channel and whether the USA, International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

5.15 SETUP MODE

The **HX270E**'s Setup Mode allows a number of the **HX270E** operating parameters to be custom-configured for your operating requirements.

The Setup Mode is easy to activate and set, using the following procedure:

1. Turn the radio off.
2. Hold down the **SQL** key, then turn on the transceiver while still holding down the **SQL** key.
3. "**SET**" will appear on the display, indicating that the Setup Mode has been activated.
4. Press the **SQL** key to select the Menu item to be adjusted (see below).
5. Press the [**▲**] or [**▼**] key select the status or value of the Menu item.
6. After completing your adjustment, press the **SQL** key to save the new setting, and then press the **PTT** switch to exit to normal operation.



5.15.1 bEP (KEY BEEP)

Function: Enable/Disable the Keypad beeper.

Available Values: ON/OFF

Default: ON

5.15.2 dUL (DW DISPLAY)

Function: Selects the Dual Watch scanning display mode.

Available Values: nor (Normal)/SPL (Special)

Default: SPL (Special)

When “Special” is selected, channel number which is the LCD shows received channel.

5.15.3 LP (LAMP MODE)

Function: Select the LCD/Keypad Lamp mode.

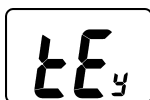
Available Values: kEy (KEY)/Cnt (Continue)/oFf

Default: kEy (KEY)

kEy: Illuminates the LCD/Keypad for 5 seconds when any key is pressed.

Cnt: Illuminates the LCD/Keypad continuously.

oFf: Disables the LCD/Keypad illumination.



Key



Continuous



Off

5.15.4 SnL (SCAN LAMP)

Function: Enable/Disable the Scan lamp while scanning is paused.

Available Values: ON/OFF

Default: ON

5.15.5 SCn (SCAN DISPLAY)

Function: Select the display mode while scanning.

Available Values: nor (Normal)/SPL (Special)

Default: nor (Normal)

nor: The channel number changes when scanning.

SPL: The channel number only changes when the radio receives a transmission. This lets you see the last channel on which someone called.



Normal



Special

6. MAINTENANCE

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

- Keep the microphone connected or the jack covered at all times to prevent corrosion of electrical contacts;
- Never key the transmitter unless an antenna or suitable dummy load is connected to the antenna receptacle.
- Use only STANDARD HORIZON-approved accessories and replacement parts.

TROUBLESHOOTING CHART		
SYMPTOM	PROBABLE CAUSE	REMEDY
The SCAN key does not start the scan.	No channels memorized.	Use the MEM key to enter desired channels into the transceiver's memory.
	Squelch is not adjusted.	Adjust the squelch to threshold or to the point where noise just disappears. Further adjustment of the squelch control may eliminate incoming signals.
The USA/INTL/CAN modes do not function.	Proper operation not followed.	HOLD down the 16/9 key and press the DW key.
Press and holding the SQL key does not eliminate background noise.	Low battery.	Charge battery. Refer to section 3 of this manual.
Cannot change any function.	Key Lock is on.	Turn Key Lock off. Refer to section 4.1. ⑩.
Key Lock does not function.	Proper operation not followed.	Hold down the H/L key for 1 second.
Indicator does not light when charging a battery.	Defective battery FNB-83 or corroded contacts on battery or charger.	Contact your Standard Horizon dealer.

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7. CHANNEL ASSIGNMENTS

VHF MARINE CHANNEL CHART			
CH	TX	RX	Remarks
01	156.050	160.650	Duplex
02	156.100	160.700	Duplex
03	156.150	160.750	Duplex
04	156.200	160.800	Duplex
05	156.250	160.850	Duplex
06	156.300		Simplex
07	156.350	160.950	Duplex
08	156.400		Simplex
09	156.450		Simplex
10	156.500		Simplex
11	156.550		Simplex
12	156.600		Simplex
13	156.650		Simplex
14	156.700		Simplex
15	---	156.750	Receive only
15	156.750		Simplex
16	156.800		Simplex
17	156.850		Simplex
18	156.900	161.500	Duplex
19	156.950	161.550	Duplex
20	157.000	161.600	Duplex
21	157.050	161.650	Duplex
22	157.100	161.700	Duplex
23	157.150	161.750	Duplex
24	157.200	161.800	Duplex
25	157.250	161.850	Duplex
26	157.300	161.900	Duplex
27	157.350	161.950	Duplex
28	157.400	162.000	Duplex
60	156.025	160.625	Duplex
61	156.075	160.675	Duplex
62	156.125	160.725	Duplex
63	156.175	160.775	Duplex
64	156.225	160.825	Duplex
65	156.275	160.875	Duplex
65	156.275		Simplex
66	156.325	160.925	Duplex
67	156.375		Simplex
68	156.425		Simplex
69	156.475		Simplex

VHF MARINE CHANNEL CHART			
CH	TX	RX	Remarks
70	156.525		Simplex
71	156.575		Simplex
72	156.625		Simplex
73	156.675		Simplex
74	156.725		Simplex
75	156.775		Simplex
76	156.825		Simplex
77	156.875		Simplex
77	156.875		Simplex
78	156.925	161.525	Duplex
79	156.975	161.575	Duplex
80	157.025	161.625	Duplex
81	157.075	161.675	Duplex
82	157.125	161.725	Duplex
83	157.175	161.775	Duplex
84	157.225	161.825	Duplex
85	157.275	161.875	Duplex
86	157.325	161.925	Duplex
87	157.375	161.975	Duplex
88	157.425	162.025	Duplex
WX01	---	162.550 (RX only)	Weather
WX02	---	162.400 (RX only)	Weather
WX03	---	162.475 (RX only)	Weather
WX04	---	162.425 (RX only)	Weather
WX05	---	162.450 (RX only)	Weather
WX06	---	162.500 (RX only)	Weather
WX07	---	162.525 (RX only)	Weather
WX08	---	161.650 (RX only)	Weather
WX09	---	161.775 (RX only)	Weather
WX10	---	163.275 (RX only)	Weather

The following channels may be fitted to your radio. These are only licensed for use in the countries indicated. No attempt should be made to use them in any other country.

Designation	Tx	Rx	Country
M	157.850	157.850	UK
M2	161.425	161.425	UK
31	157.550	161.150	Holland/Belgium
96	162.425	162.425	Belgium
L1/1L	155.500	155.500	Scandinavia
L2/2L	155.525	155.525	Scandinavia
L3/3L	155.650	155.650	Scandinavia (not Denmark)
F1/1F	155.625	155.625	Scandinavia
F2/2F	155.775	155.775	Scandinavia
F3/3F	155.825	155.825	Scandinavia

NOTE

CH 0 will only be made available in the UK to Coastguard users with written authorisation.

Channel 70 is the designated Digital Selected Calling (DCS) channel and may not be used for voice transmissions.

8. SPECIFICATIONS

8.1 General

Frequency range:	156 MHz - 163.275 MHz (Marine Band) Channel Steps: 25 kHz
Frequency stability:	± 5 ppm (-30 °C to +60 °C)
Emission type:	16K0G3E
Antenna impedance:	50 Ohms
Supply voltage:	7.2 VDC
Current consumption:	200 mA (Receive) 40 mA (Standby, Saver Off) TX: 1.4 A (H)/0.9 A (M)/0.5 A (L)
Operating Temperature:	-30 °C to +60 °C
Waterproof rating:	30 minutes @ 1 meter depth (JIS 7)
Case Size (W x H x D):	58 x 120 x 30.5 mm
Weight (Approx):	380 g with FNB-83

8.2 Transmitter

RF output power:	5 W/2.5 W/1 W @7.2 V
Modulation Type:	Variable Reactance
Max deviation:	±5 kHz
Spurious emissions:	At least 73 dB down

8.3 Receiver

Circuit type:	Double-conversion superheterodyne
Intermediate Frequencies:	1st: 21.7 MHz 2nd: 450 kHz
Sensitivity:	0.35 µV 20 dB SINAD
Adjacent channel selectivity:	70 dB
Intermodulation response:	70 dB
Selectivity:	12 kHz / 25 kHz (-6 dB/-60 dB)
AF output:	600 mW @ 16 Ohm for 10 % THD (@7.2V)

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**YAESU**

Radio Communications

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Declaration of Conformity

Nr. YE-DOC-2701-05

We, the undersigned,

Company: Yaesu Europe B.V.
Address, City: 1119 NL Schiphol-Rijk
Country: The Netherlands
Phone number: (+31)-20-500-52-70
Fax number: (+31)-20-500-52-78

certify and declare under our sole responsibility that the following equipment:

Type of Equipment: VHF Marine/LMR TRANSCEIVER
Brand Name: STANDARD HORIZON
Model Number: HX270E
Manufacturer: Vertex Standard Co., Ltd.
Address of Manufacturer: 4-8-8 Nakameguro Meguro-ku, Tokyo 153-8644, Japan
EU / EFTA member states intended for use:

EU: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland,
Italy, Luxembourg, The Netherlands, Norway, Portugal, Spain, Sweden,
United Kingdom
EFTA: Switzerland, Iceland, Liechtenstein

Member states with restrictive use:
None

is tested to and conforms with the essential requirements for protection of health and the safety of the user and any other person and ElectroMagnetic Compatibility, as included in following standards:

Applicable Standard: EMC Standard: EN 301 843-2 V1.2.1 /
Safety Standard: EN 60065 (1998)
Radio Standard: EN 301 178-2 V1.1.1
EN 300 698-2 V1.1.1 / EN 300 698-3 V1.1.1

and therefore complies with the essential requirements and provisions of the Directive 1999/5/EC of the European Parliament and of the council of March 9, 1999 on Radio equipment and Telecommunication Terminal Equipment and the mutual recognition of their conformity and with the provisions of Annex IV (Conformity Assessment procedure referred to in article 10)

The following Notified Bodies have been consulted in the Conformity Assessment procedure:

Name of Notified Body: Compliance Certification Services
Address: 561F Monterey Road Morgan Hill, CA 95037, U.S.A.
Notified Body number: 0984

The technical documentation as required by the Conformity Assessment procedures is kept at the following address:

Company: Yaesu Europe B.V.
Address: 1119 NL Schiphol-Rijk, The Netherlands

Technical Construction File: Issued by Vertex Standard Co., Ltd., Tokyo, Japan
File No. TA000161A / 4th October, 2004

Drawn up in : Schiphol, The Netherlands
Date : 27th January, 2005

Name and position : M. Ukaga, General Manager



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