1. GENERAL INFORMATION

1.1 INTRODUCTION

The **HX460S** is a marine handheld two-way VHF transceiver. The transceiver has 173 channels: 163 marine and 10 weather. The 163 marine channels are switchable to comply with either USA, International, or Canadian regulations. It has an emergency channel 16 which can be immediately selected from any channel by pressing the **16/9** key. Weather channels can also be accessed immediately by pressing the **WX** key.

The transceiver includes following features: memory scanning, Priority Scanning, weather alert, 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 optional **SU-1** Barometric Pressure Sensor Unit can be installed to providing readout of the current barometric pressure.

1.2 FCC/INDUSTRY CANADA INFORMATON

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

FCC Type Accepted: Part 80

Output Power with FNB-58LI: 1 watt (Low), 2.5 watts (Mid), and 5 watts (High)

Emission: 16K0F3E

Frequency Range:

FCC Type Number:

Industry Canada Type Approval:

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

2. ACCESSORIES

2.1 PACKING LIST

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

- **HX460S** Transceiver
- **FNB-V75LI** Lithium Ion Battery Pack
- **NC-72B** 120VAC Wall Charger for **FNB-V75LI**

- **YHA-29** Antenna
- **E-DC-19** DC Cable with 12 V Cigarette Lighter Plug
- Belt Clip with screw
- Lanyard
- Owner's Manual
- Owner's Manual Supplement

2.2 OPTIONS

FNB-V75LI Lithium Ion Battery Pack
NC-72C 230-240 VAC Wall Charger for **FNB-V75LI**
NC-72U 230VAC Wall Charger for **FNB-58LI**
FBA-29 Alkaline Battery Case
SU-1 Barometric Pressure Sensor Unit
CMP460 Noise-canceling Waterproof Speaker/Microphone
VC-24 VOX Headset
E-DC-19 DC Cable with 12 V Cigarette Lighter Plug
E-DC-6 DC Cable; plug and wire only
MCC460 Soft Case
CAW230 SMA-SO239 Adapter

3. CONTROLS AND INDICATORS

NOTE: This section defines each control of the transceiver. For detailed operating instructions refer to section 4 of this manual. Refer to Figure 1 for the location of the following controls, indicators, and connections.

3.1 CONTROLS AND CONNECTIONS

1. **POWER SWITCH/VOLUME CONTROL**

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

2. **SQUELCH (SQL) CONTROL**

Set 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.

3. **PUSH-TO-TALK (PTT) SWITCH**

Activates transmission.

4. **LAMP** KEY

Turns the lamp for LCD and Keypad back-lighting on and off.

Hold down this key to lock the displayed channel functions (except the **H/L**, **PTT**, and **LAMP** keys) so that they are not accidentally changed. The key lock symbol appears to indicate that the channel is locked. Hold down until the key lock symbol disappears to unlock the channel.

5. UP (▲) KEY

Selects the desired channel. Each press increases the channel number. When held down, the channels increase continuously.

6. DOWN (▼) KEY

Selects the desired channel. Each press decreases the channel number. When held down, the channels decrease continuously.

7. **16/9** KEY

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

8. **SCAN** KEY

Starts scanning programmed channels. Press this key for at least 1 second to turn on and off priority scan (scanning of programmed channels and priority channel) during scan.

9. **PRESET** KEY

Immediately recalls one of up to five user preset memories for operation. Pressing this key repeatedly to select the desired preset memory.

10. **WX** KEY

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

Holding this key to toggles the mode between USA, International, and Canadian.

11. **MEM** KEY

Memorizes the selected channel. Holding this key deletes the memorized channel.

12. **H/L** KEY

Toggles the between high, mid, and low power. To change from low power to mid or high power, hold down this key on Canadian channel 13, USA channel 13 or 67.

13. **EXT DC** JACK

This coaxial DC jack allows connection to an external DC power source (6-16V DC).

14. **MIC/SP** JACK

Accepts optional **CMP460** speaker/microphone or **VC-24** VOX Headset. When this jack is used, the internal speaker is disabled.

15. Antenna Connector

Connect the supplied **YHA-29** flexible antenna.

3.2 INDICATORS

Channel Display

The operating channel in both transmission and reception mode. When the optional SU-1 Barometric Pressure Sensor Unit is installed, indicates the current Barometric Pressure here.

A Indicator

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

USA/CAN/INTL Indicator

The modes of operation for the particular channel. "USA" indicates USA mode. "CAN" indicates Canadian mode and "INTL" indicates International mode.

H/M/L Indicator

"H" is high power. "M" is middle power and "L" is low power. Blank is a reception only channel.

PRI Indicator

Priority Scan is activated.

SCN Indicator

Scan is activated.

TX Indicator

Indicates transmission

WX Indicator

NOAA weather channel.

MEM Indicator

The channel is in the transceiver's scan memory.

Battery Indicator

Battery life, during transmission and reception, is as follows:

NOTE: The battery life indicator is accessed immediately by pressing the **PTT** switch. The battery indicator should be used only as a guide in charging the **FNB-58LI** battery.

KEY Symbol Indicator

The channel is locked. All keys are disabled except for the **H/L**, **PTT** and **LAMP** keys

4. OPERATION

4.1 INITIAL PROCEDURE

NOTE: Never key the transceiver without an antenna connected. Damage may occur to the transceiver. Do not operate the transceiver while charging.

1. Install the belt clip on the transceiver if desired. Use the one Phillips-head screws included with the clip to mount the clip to the back of the transceiver.
2. Install the nylon carrying strap on the belt clip if desired.
3. Install the battery pack on the transceiver (see figure X and section 5.2)
4. Install the antenna to the transceiver.
5. Turn the **POWER/VOLUME CONTROL** knob clockwise to turn the transceiver.

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

4.2 RESECTION

1. Turn the **POWER/VOLUME CONTROL** knob clockwise to turn the transceiver on.
2. Turn the **SQUELCH CONTROL** knob fully counterclockwise. This state is known as squelch off.
3. Turn up the **POWER/VOLUME CONTROL** knob until the noise or audio from the speaker is at a desired level.
4. Select a channel that has no signal being received (no one is transmitting on the channel) and only noise heard.
5. Slowly turn the **SQUELCH CONTROL** knob clockwise and stop immediately after the noise disappears. This condition is known as the "Squelch Threshold." If the knob is turned clockwise past this point, weak signals may not be received. No noise or no signal is heard until a signal is received that exceeds the squelch threshold.
6. To change channel, press the [▲] or [▼] key. Sometimes, a slight adjustment of the squelch threshold is needed as some channels have a higher noise level than others.
7. Please refer to the Owner's Manual Supplement for a complete listing of all USA, International and Canadian VHF Marine channels and their use.
8. If necessary, press the **LAMP** key to turn on the lamp. The lamp automatically turns off in about 5 seconds. To turn off the lamp sooner, press the key **LAMP** again.
9. To lock the channel in the operating mode so that it is not accidentally changed, hold down the **LAMP** key for about one second. This locks the [▲] and [▼] keys and all the front panel controls except the **H/L**, **PTT** and **LAMP** keys. The "KEY LOCK" symbol appears on the display to indicate that the channels is locked. Hold down the **LAMP** key for about one second to unlock the channel. The "KEY LOCK" symbol disappears from display.

4.3 TRANSMISSION

1. Perform steps 1 through 7 of RECEPTION.
2. Before transmitting, monitor the channel and make sure it is clear.
   THIS IS AN FCC REQUIREMENT!
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.
4. ***Note:*** Transmitting on 1 watt prolongs battery life. Low power (1 watt) should be selected whenever possible.
5. If using low power is not effective, select mid power (2.5 watts) or high power (5 watts) by pressing the **H/L** key until "**M**" (mid power) or "**H**" (high power) is displayed.

6. When receiving a signal, wait until the signal stops before transmitting. The transceiver cannot transmit and receive simultaneously.
7. Press the **PTT** (push-to-talk) switch. The "**TX**" indicator is displayed during transmission.
8. Speak slowly and clearly into the microphone. Hold the microphone about 1/2 to 1 inch away from your mouth.
9. When the transmission is finished, release the **PTT** switch.
10. Refer to the OWNWER'S MANUAL SUPPLEMENT for standard transceiver operating procedures.

4.4 TRANSMIT TIME - OUT TIMER (TOT)

While the **PTT** switch is held down, transmission time is limited to 5 minutes. This prevents prolonged unintentional transmissions. About 10 seconds before automatic transmitter shutdown, a warning beep is sounds from 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 and press again. This time-out timer (TOT) prevents a continuous transmission that would result from an accidentally stuck **PTT** switch.

4.5 USA, CANADIAN, AND INTERNATIONAL MODES

1. To change the mode of the transceiver, Held down the **16/9** key and press the **WX** key. The mode changes from USA, to International, to Canadian with each press.
2. "**USA**" appear on the LCD for the USA mode, "**CAN**" appears for Canadian mode, and "**INTL**" appears in International mode.
3. Refer to marine channel charts in OWNER'S MANUAL SUPPLEMENT for allocated channels in each mode.

4.6 NOAA WEATHER CHANNELS

1. To receive a weather channel, press the **WX** key. The transceiver changes to the weather channel mode.
2. Press the [▲] or [▼] key to change to other weather channels.
3. To exit from the weather channels, press the **WX** key. The transceiver recalls the previous non-weather channel.

4.7 SCAN

1. Select the desired channel to be scanned using the [▲] or [▼] key.

2. Press the **MEM** key to store the channel into the transceiver's memory. "**MEM**" is 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**" disappears.
5. All channels programmed remain in the transceiver's scan memory even if the power is turned off. See section "4.17 RESETTING THE TRANSCEIVER'S MICROPROCESSOR" to clear all the transceiver's scan memory.
6. Adjust the **SQUELCH CONTROL** knob until background noise is eliminated.
7. To start scan, 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.
8. To stop the scan, press the **SCAN** key.

4.8 PRIORITY SCAN

1. The following channels can be set as the priority channel; 16, 09, and Preset Channels 1 through 5 (Preset Channel described section 4.14). To set the priority channel, hold down the **16/9** key and press the **MEM** key. The channel changes from 16 to 09 to Preset 1 to Preset 2 to Preset 3 to Preset 4 to Preset 5 channel with each press of the **MEM** key. The displayed channel is set to the priority channel.
2. For priority scanning, hold down the **SCAN** key at least 1 second during normal scanning. Scanning will proceed between the memorized channels and the priority channel. The priority channel will be scanned after each programmed channel.
3. For example, channels 06, 07, 08 are memorized in the transceiver's 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.

4.9 WEATHER ALERT

In the event of extreme weather disturbances such as storms and hurricanes, NOAA (National Oceanic and Atmospheric Administration) sends a weather alert accompanied by a 1050 Hz tone and subsequent weather reports on the weather channels. The transceiver is capable of receiving this alert if the following is performed:

1. Program weather channels into the transceiver's memory for scanning. Follow the

same procedure as for regular channels under Section 4.7.

2. Press the **SCAN** key to start the scan.
3. The memorized weather channels are scanned along with the regular memorized channels. Scan does not stop for normal weather broadcast.
4. When an alert is received on a weather channel, scanning stops and the transceiver enters the WEATHER ALERT MODE.
5. When the transceiver is in the WEATHER ALERT MODE, a loud tone is sounded.
6. Press the **WX** key to stop the alert tone and receive the voice information on the weather channel.

4.10 EMERGENCY CHANNEL 16

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

4.11 CHANNEL 9

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

4.12 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. Hold down the **H/L** key to temporarily switch to high or mid power. High or mid power can only be accessed in USA and Canadian modes. When the **PTT** switch released, the transceiver will revert low power.

4.13 OPERATING ON CHANNEL 67

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

4.14 PRESET CHANNEL (A ~ E) INSTANT ACCESS

Five user-assigned channels can be programmed for instant access. USA channel 70 and weather channels should not be assigned into the preset channels. If the **PRESET** key is pressed and no channels has been assigned, an alert signal will be emitted twice.

4.14.1 Programming

1. Hold down the **PRESET** key and press the [▲] or [▼] key until the desired channel number is displayed.
2. With the desired channel number displayed, release the **PRESET** key. The "**A**" will appear on the display, indicating that the displayed channel is now designated Preset Channel A.
3. Repeat steps 1 and 2 to program the desired channel to the Preset Channels b ~ E.
4. To delete the 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.

4.14.2 Operation

Pressing the **PRESET** key toggles between Preset Channel A, b, C, d, E, and regular channel. Preset Channel A is represented by "A" to the left of the channel number on the LCD, and channel B is represented by "b" ……. Do not confuse this "A" with the one that sometimes is displayed to the right of the channel number (described in the section 3.2 of this Owner's Manual).

4.15 SIMPLEX/DUPLEX CHANNEL USE

All channels are factory-programmed in accordance with FCC (USA), Industry Canada and International regulations. 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 USA, International or Canadian operating mode is selected. Refer to the channel charts in the OWNER'S MANUAL SUPPLEMENT.

4.16 BAROMETRIC PRESSURE METER

If you know the current barometric pressure, a **SU-1** Barometric Pressure Unit can be installed to the transceiver. Contact your Vertex Horizon dealer to have the Barometric Pressure Unit installed for your transceiver.

1. Set the **SQUELCH CONTROL** knob to the "Squelch Threshold" point.
2. Hold down the **H/L** key at least 1 second, initiate measuring the current Barometric

Pressure.

3. After few seconds, displays the current Barometric Pressure (in mmHg) on the display.
4. When open the squelch during displaying the Barometric Pressure, disappear the Barometric Pressure and return to normal operation automatically.
5. To Return to normal operation, hold down again the **H/L** key at least 1 second.

4.17 SET MODE

The **HX460S**'s Set Mode system allows a number of transceiver operating parameters to be custom-configured for your operating requirements.

The Set Mode is easy to activated and set, using the following procedure:

1. Turn the radio off.
2. Hold down the **LAMP** key and then turn on the transceiver.
3. The "**SET**" will appear on the display, indicate that activate the Set Mode.
4. Press the **LAMP** key to select the Menu item to be adjusted.
5. Press the [▲] or [▼] key select the status or value of the Menu item.
6. After completing your adjustment, press the **16/9** key to save the new setting and exit to normal operation.

4.17.1 beP (Key Beep)

Function: Enable/disable Keypad beeper.
Available Values: ON/OFF
Default: ON

4.17.2 LP (Lamp Mode)

Function: Select the LCD/Keypad Lamp mode.
Available Values: KEY/TGL (Toggle)/5 (5 second)
Default: KEY
KEY: Illuminates the LCD/Keypad for 5 seconds when any key is pressed.
TGL(Toggle): Pressing the **LAMP** key toggles LCD/Keypad lamp On/Off.
5 (5 second): Pressing the **LAMP** key illuminates the LCD/Keypad for 5 seconds.

4.17.3 SCL (Scan Lamp)

Function: Enable/disable the Scan lamp while paused.
Available Values: ON/OFF

Default: OFF

4.17.4 SCn (Scan Display)

Function: Select the display mode while scanning.

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

Default: nor (Normal)

nor (Normal): Changes the channel number accordance with scanning

SPL (Special): The channel number does not changed while scanning. However, the channel number changes to the scan stop channel, when the scanner is stopped.

4.17.5 bro (Barometric pressure) [Requires optional **SU-1**]

Function: Select the unit of the Barometric Pressure display.

Available Values: HG (mmHg)/HPA

Default: HG (mmHg)

4.17.6 boF (Barometric Pressure Offset) [Requires optional **SU-1**]

Function: Correcting the Barometric Pressure meter)

Press the [▲] or [▼] key to set the **HX460S**'s Barometric Pressure display to the *Calibrated barometer* display.

4.18 CLONNING

The **HX460S** includes a convenient "Clone" feature, which allows the memory and configuration data from one transceiver to be transferred to another **HX460S**. Here is the procedure for Cloning one radio's data to another:

1. Turn both radio off.
2. Connect the Clone Cable between the **MIC/SP** jacks of the two transceivers.
3. Hold down the **PRESET** key and then turn on the transceiver. Do this for both transceivers (the order of switch on does not matter). "cLn" will appear on the display on both transceivers.
4. On the ***Destination*** transceiver, press **MEM** key ("cr" will appear on the LCD).
5. Press the **16/9** key on the ***Source*** transceiver; "cS" will appear on the Source radio, and the data is transferred.
6. If there is a problem during the cloning process, "cE" will displayed. Check your cable connections and battery voltage, and try again.
7. If the data transfer is successful, the Destination transceiver will return to normal operation; Turn both transceivers off and disconnect the Clone cable. You can then

turn the transceivers back on, and begin normal operation.

4.19 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 the transceiver off. Then while holding the **WX** and **SCAN** keys pressed, turn the transceiver on. The default conditions are:

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

Note: The above procedure also resets the microprocessor. Perform this procedure if an operational problem occurs.

5. BATTERY

CAUTION: To avoid risk of explosion and injury, **FNB-V75LI** battery pack should only be removed, charged or recharged in non-hazardous environments.

5.1 BATTER CHARGING

To check the charge status, install the battery and press the **PTT** switch while observing the "Battery" indicator (see page X).

The **NC-72** battery charger supplied with the transceiver recharges a completely discharged **FNB-V75LI** battery pack in about 3 hours.

5.2 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."

5.3 OPERATING BATTERY CHARGER

1. Turn the transceiver off.
2. Plug the end of **NC-72** Battery Charger to the **EXT DC** jack of the transceiver.

3. Plug the **NC-72** into a 120 VAC wall outlet.
4. The indicator will glows red, and charging begins.
5. When charging is completed, the red indicator will change to green. Remove the plug from the **EXT DC** jack when charging time has passed.

5.4 FBA-29 BATTERY CASE

FBA-29 is a battery case that holds two alkaline batteries and is used with the **HX460S** transceiver. Alkaline batteries can be used for transmission in an emergency, but power output will only be 0.9 W, and battery life will be shortened dramitically.

1. Slide the batteries into the **FBA-29** with the Negative [–] side of the batteries touching the spring connections inside the **FBA-29**.
2. Insert the **FBA-29** into the battery compartment on the back of the transceiver, then close the Battery Pack Latch until it locks in place with a "click."

Note: The battery indicator on the transceiver is only applicable to the **FNB-V75LI** rechargeable battery. Disregard this indication when using alkaline batteries.

5.5 BATTERY SAFETY

Battery packs for your transceiver contain Nickel-cadmium (Ni-Cd) 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. The terminals that are exposed on the battery pack when it is mounted on the transceiver are charging terminals only and do not constitute a hazard.

DO NOT INCINERATE

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

DISPOSE OF BATTERY PACKS PROPERLY

Ni-Cd batteries must be recycled or disposed of properly. For requirements in your area,

check with the dealer from whom you purchased your transceiver. The symbol shown below is a reminder that the battery packs are recyclable.

6. MAINTENANCE

For preventive maintenance and instructions on obtaining factory service, please refer to the OWNER'S MANUAL SUPPLEMENT. For general troubleshooting, refer to this Troubleshooting Chart.

TROUBLESHOOTING CHART		
SYMPTON	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 **WX** key.
Rotating the **SQUELCH CONTROL** knob does not eliminate background noise.	Low battery.	Charge battery. Refer to section 5 of this manual.
Cannot change any function	Key Lock is on.	Turn Key Lock off.
Key Lock does not function.	Proper operation not followed.	Hold down the **LAMP** key for 1 second.
Indicator does not light when charging a battery.	Defective battery **FNB-58LI**.	Contact your Vertex Horizon dealer.

7. SPECIFICATIONS

7.1 General

Frequency range:	TX: 156.025 - 157.425 MHz
	RX: 156.050 - 163.275 MHz
Number of channels:	All US, Canadian & International channels
	10 weather channels
Channel spacing:	25 kHz
Modulation type:	16K0G3E
Supply voltage:	7.2 VDC
Current consumption:	STBY: 45 mA

	Saver on: 20 mA
	RX: 190 mA
	TX: 1.6 A (H)/0.9 A (M)/0.6 A (L)
Temperature range:	-4 °F - +140 °F
	-20 °C - +60 °C
Battery life:	10 hours @ 5 W (HI)
(STBY:RX:TX = 18: 1: 1)	15 hours @2.5W (MID)
	19 hours @ 1 W (LOW)
Dimensions:	37.8 (H) x 23.6 (W) x 11.41 (D) in
	96 (H) x 60 (W) x 29 (D) mm
Weight:	?

7.2 Transmitter

Frequency range:	156.025 - 157.425 MHz
RF output power:	5 W/2.5 W/1 W @7.2 V or 13.8 V
Spurious emissions:	At least 65 dB
AF distortion:	<5 % @1 kHz
Max deviation:	±5 kHz
Frequency stability:	±5 ppm
FM noise:	>40 dB
Microphone type:	Condenser
Microphone impedance:	2 kohms

7.3 Receiver

Frequency range:	156.050 - 163.275MHz
Circuit type:	Double-conversion superheterodyne
IFs:	1st: 21.7 MHz
	2nd: 450 kHz
Sensitivity:	0.2 μV 12 dB SINAD
Adjacent channel selectivity:	70 dB
Intermodulation response:	70 dB
Spurious response rejection:	70 dB
Speaker impedance:	8 ohms
AF output:	0.4 W @ 8Ω 10 % THD 7.2V
	0.5 W @ 8 Ω 10 % THD 13.8V