

HORIZON USA/CANADA (C866S)

VHF/FM MARINE RADIOTELEPHONE



OWNER'S OPERATING MANUAL



STANDARD
COMMUNICATIONS CORP.

6/79

XC866S0102

SPECIFICATIONS

GENERAL

Frequency Range: 156 to 162 MHz
Number of Channels: 50
Input Voltage (Negative Ground): 13.8 VDC (+20%)
Circuitry: All Solid-State
Current Drain (Standby): 650 mA
(Other): 5 A (Hi), 1.5 A (Lo)

TRANSMITTER

Power Output: 25 W (Hi), 1 W (Lo)
Spurious and Harmonics Attenuation: 65 dB (Hi), 50 dB (Lo)
Hum and Noise Level Attenuation: 45 dB Min.
Audio Response: +1/-3 dB from 6 dB/octave ref.
Audio Distortion: 3%
Frequency Stability (-20°C to +50°C): ±10 ppm
Modulation: 16F3
Deviation: ±5 kHz Max.

RECEIVER

Sensitivity (20 dB Quieting): 0.35 uV
Squelch Sensitivity (Threshold): 0.16 uV
(Tight): 14 dB more than 20 dB QS
Modulation Acceptance Bandwidth: ±7.5 kHz
Maximum Audio Power Output: 4 W
Audio Response: +1/-3 dB from 6 dB/octave ref.
Frequency Stability: ±10 ppm
Intermodulation Spurious Attenuation
(12 dB SINAD method): 65 dB (Horizon USA)
70 dB (Horizon Canada)
Spurious Response (Image): 62 dB (Horizon USA)
70 dB (Horizon Canada)

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GENERAL INFORMATION

Your Standard Communications Corp. (SCC) Horizon USA/CANADA is an all solid-state, VHF/FM transceiver designed for use in the frequency range of 156-162 MHz. It requires 13.8 VDC (+20%) input power for operation, and develops up to 25 watts RF output power. It is designed for 50 receive channels and 46 (USA) or 47 (CANADA) transmit channels. White in color, the unit measures approximately 3" x 7" x 9 1/2" and weighs about 4 1/2 pounds.

The purpose of this Owner's Operating Manual is to acquaint you with the controls and connections of your new transceiver, in addition to familiarizing you with any FCC requirements you should know and fulfill prior to the operation of your radio. We strongly recommend that you read this manual carefully before using your transceiver.

FCC INFORMATION

Your radio has been specifically designed to comply with the FCC requirements necessary to operate it in the Maritime Radio Ser-

vice. You must be cognizant of, and comply with, Part 83 of the FCC Rules and Regulations, the governing document for this service. You are also required to have a copy of Part 83 on board your ship. This may be obtained by writing to:

SUPERINTENDENT OF DOCUMENTS
Government Printing Office
Washington, D.C. 20402

A valid station license is required before operation of your radio is permissible, obtained by submitting a properly and fully completed FCC Form 502 to the FCC.

NOTE: It is the responsibility of Canadian residents to comply with all licensing requirements of the DOC, the governing body for communications equipment in Canada.

The radiotelephone transmitter in a ship station may be operated only by a licensed radio operator. The licensed operator may permit others to speak into the microphone if he starts, supervises, and ends the operation, makes the necessary log entries, and gives the necessary identification. The license usually held by radio operators aboard small vessels not required to carry a radio installation for safety purposes is the Restricted Radiotelephone Operator Permit. This lifetime permit is obtained by submitting to the FCC a properly and fully completed FCC Form 753. No oral or written examination is required.

You should always remember that, as the licensee of a ship radio station, you are responsible at all times for the lawful and proper operation of the station. Ship stations are licensed primarily for safety of life and property; therefore, distress and safety communications must have absolute priority. Secondly, however, certain frequencies which are not reserved for calling, distress, or other safety purposes may be used for radiotelephone calls to coast stations or between ships.

The SCC Dealer/Distributor from whom you purchased your unit will assist you in all licensing procedures. In addition, the following data for your Horizon USA/CANADA may be helpful when filling out your application:

Type Accepted - Yes
Output Power - 25 watts (Hi), 1 watt (Lo)
Emission - 16F3
Frequency Range - 156 - 162 MHz
Type Number - T0479

CONTROLS AND CONNECTIONS

Before operating your transceiver, you should become familiar with all the controls and connections. These are all marked and easily located on the radio. For a description of each, refer to the following list.

1. CHANNEL SELECTOR SWITCH - Selects the desired operating channel.
2. LED CHANNEL INDICATOR DISPLAY - Indicates on an LED digital display the number of the selected channel. In addition, the "W" indicator illuminates when you select a weather channel, and the "A" indicator illuminates when you select a channel with an "A" suffix (e.g., ch. 23A).

3. HI/LO POWER SWITCH - Selects the desired transmitter output power (25 watts in "HI" position, 1 watt in "LO" position).
4. SQUELCH CONTROL - Proper adjustment of this control eliminates the objectionable background noise heard in the speaker.
5. OFF/VOLUME CONTROL - Applies power to the unit and adjusts audio output level.
6. LED TX INDICATOR - Illuminates when the radio is in the transmit mode.
7. MICROPHONE - Hard-wired to the radio, the microphone contains a push-to-talk switch which, when depressed, puts the radio in the transmit mode. Releasing the PTT switch puts the radio in the receive mode.
8. INTERNAL SPEAKER - The internal speaker is located on the front left side of the radio.
9. EXTERNAL SPEAKER JACK - Allows for connection of an external speaker, if desired.
10. DC POWER CORD - Cord assembly includes fuse (10 ampere) and allows for connection of radio to power source.
11. ANTENNA RECEPTACLE - Allows for connection of antenna.

INSTALLATION

Prior to installing your radio unit, consideration should be given to the following to determine the most ideal location.

1. Keep in mind that cables from the antenna, power source and external speaker (if used) must be connected to the radio unit.
2. Do not locate the radio unit or external speaker close to the compass. Both the microphone and speaker contain permanent magnets which could result in erroneous compass readings.
3. The unit should be mounted so the controls and microphone are both visible and readily accessible.

MECHANICAL

Your transceiver can be mounted in any attitude or on any suitable surface. Normal installation includes under the dashboard, on top of the dash or desk, or on the cabin overhead. To install, simply secure the "U"-shaped bracket to the mounting location, then secure the radio to the bracket at the desired angle. See your SCC Dealer/Distributor for optional mounting brackets for your Horizon USA/CANADA.

The microphone hanger should be mounted on a vertical surface in close proximity to the radio.

If the unit is to be mounted overhead, the control panel can be repositioned for proper viewing as follows:

1. Remove the two case screws at the rear of the radio and slide the chassis out from the case.

2. Remove the four screws securing the control panel to the radio chassis.
3. Reposition the control panel to an approximately 45° downward angle and secure it to the chassis in this position, utilizing the screw holes on the chassis which align with the control panel screw holes in this position.
4. The radio case must now be inverted 180° before sliding it back onto the radio chassis. Following this, secure the case to the chassis.

ELECTRICAL

1. A power cord assembly for connection to any 13.8 VDC (+20%) power source is included with your transceiver. Connect the black lead to negative ground and the red lead to positive voltage.
2. Connect a suitable VHF antenna to the antenna jack at the rear of the transceiver.
3. If desired, connect an external speaker (4 ohm) to the external speaker jack at the rear of the radio.

OPERATION

After you have become familiar with the controls of your transceiver and installed it in a suitable location, operation is as follows.

RECEIVER

1. Rotate the on/volume control clockwise to mid-position on the dial.
2. Rotate the squelch control fully counterclockwise.
3. Set the channel selector switch at the desired channel.
4. Rotate the squelch control clockwise until the background noise just disappears. This is the proper squelch setting, and the control should not be rotated beyond this point or receiver sensitivity will be degraded.
5. Set the desired hi/lo power setting. This switch should be in the "LO" position when conditions allow it. Use the "HI" position when you cannot make contact in the "LO" position or you are a considerable distance from the station you are attempting to reach.

NOTE: Selection of channel 15 (Horizon USA) or channel 17 (Horizon USA and Horizon Canada) automatically reduces the radio output power to one watt, in compliance with FCC and DOC regulations.

6. When a message is received, adjust the volume control to the desired listening level.
7. To transmit, press the PTT switch on the microphone and hold in while you give your message. Speak slowly and distinctly. (Before transmitting, insure that the channel you have selected is not in use.)

8. When you have finished transmitting your message, release the PTT switch so incoming messages can be received.

NOTE: Your transceiver operates in the simplex mode, which means you cannot receive a call while you are transmitting. Therefore, you should wait until an incoming message is completed before transmitting.

MAINTENANCE AND CARE

Your SCC transceiver requires practically no routine maintenance. Proper care and good judgment in using the transceiver will insure that its life is long and useful. The following guidelines will assist you in maintaining your transceiver in peak performance.

1. Avoid operating your transceiver on supply voltages of less than 11 VDC or more than 15 VDC. High supply voltage is a common cause for transceiver failure.
2. Do not energize the transmitter when the antenna is disconnected or if any visible defects are noted in the antenna or its interconnecting cable.
3. Have an FCC licensed technician check the transceiver and its operating antenna in accordance with the FCC Rules and Regulations.
4. Should your transceiver require repair or additional maintenance, take it to the SCC Dealer/Distributor from whom you bought it.

HORIZON USA

VHF MARINE CHANNEL ASSIGNMENTS AND FREQUENCIES

CHANNEL	TX FREQ. (MHZ)	RX FREQ. (MHZ)	CHANNEL ASSIGNMENT
01	-	162.550	WEATHER
02	-	162.400	WEATHER
03	-	162.475	WEATHER
05A	156.250	156.250	PORT OPERATIONS - INTERSHIP, Ship/Coast
06	156.300	156.300	INTERSHIP SAFETY
07A	156.350	156.350	COMMERCIAL - INTERSHIP, Ship/Coast
08	156.400	156.400	COMMERCIAL - INTERSHIP
09	156.450	156.450	NON-COMMERCIAL - INTERSHIP, Ship/Coast
10	156.500	156.500	COMMERCIAL - INTERSHIP, Ship/Coast
11	156.550	156.550	COMMERCIAL - INTERSHIP, Ship/Coast
12	156.600	156.600	PORT OPERATIONS - INTERSHIP, Ship/Coast
13	156.650	156.650	NAVIGATIONAL - INTERSHIP, Ship/Coast
14	156.700	156.700	PORT OPERATIONS - INTERSHIP, Ship/Coast
15A	-	156.750	ENVIRONMENTAL - Coast/Ship
16	156.800	156.800	DISTRESS, SAFETY, AND CALLING
17	156.850	156.850	STATE CONTROL - Ship/Coast
18A	156.900	156.900	COMMERCIAL - INTERSHIP, Ship/Coast
19A	156.950	156.950	COMMERCIAL - INTERSHIP, Ship/Coast
20	157.000	161.600	PORT OPERATIONS - INTERSHIP, Ship/Coast
21	157.050	161.650	PORT OPERATIONS
21A	157.050	157.050	U.S. GOVERNMENT
22A	157.100	157.100	U.S. COAST GUARD, LIAISON - EMERGENCY
23A	157.150	157.150	U.S. GOVERNMENT
24	157.200	161.800	PUBLIC - Ship/Coast
25	157.250	161.850	PUBLIC - Ship/Coast
26	157.300	161.900	PUBLIC - Ship/Coast
27	157.350	161.950	PUBLIC - Ship/Coast
28	157.400	162.000	PUBLIC - Ship/Coast
65A	156.275	156.275	PORT OPERATIONS - INTERSHIP, Ship/Coast
66A	156.325	156.325	PORT OPERATIONS - INTERSHIP, Ship/Coast
67	156.375	156.375	COMMERCIAL - INTERSHIP
68	156.425	156.425	NON-COMMERCIAL - INTERSHIP, Ship/Coast
69	156.475	156.475	NON-COMMERCIAL - INTERSHIP, Ship/Coast
70	156.525	156.525	NON-COMMERCIAL - INTERSHIP
71	156.575	156.575	NON-COMMERCIAL - INTERSHIP, Ship/Coast
72	156.625	156.625	NON-COMMERCIAL - INTERSHIP
73	156.675	156.675	PORT OPERATIONS - INTERSHIP, Ship/Coast
74	156.725	156.725	PORT OPERATIONS - INTERSHIP, Ship/Coast
77	156.875	156.875	COMMERCIAL - INTERSHIP
78A	156.925	156.925	NON-COMMERCIAL - INTERSHIP, Ship/Coast
79A	156.975	156.975	COMMERCIAL - INTERSHIP, Ship/Coast
80A	157.025	157.025	COMMERCIAL - INTERSHIP, Ship/Coast
81A	157.075	157.075	U.S. GOVERNMENT ONLY
82A	157.125	157.125	U.S. GOVERNMENT ONLY
83A	157.175	157.175	U.S. GOVERNMENT ONLY
84	157.225	161.825	PUBLIC - Ship/Coast
85	157.275	161.875	PUBLIC - Ship/Coast
86	157.325	161.925	PUBLIC - Ship/Coast
87	157.375	161.975	PUBLIC - Ship/Coast
88A	157.425	157.425	COMMERCIAL - INTERSHIP

HORIZON CANADA

VHF MARINE CHANNEL ASSIGNMENTS AND FREQUENCIES

CHANNEL	TX FREQ (MHZ)	RX FREQ (MHZ)	CHANNEL ASSIGNMENT
01	-	162.550	WEATHER
02	-	163.275	WEATHER
03	-	162.400	WEATHER
06	156.300	156.300	SAFETY - INTERSHIP
07A	156.350	156.350	COMMERCIAL - INTERSHIP, Ship/Coast
08	156.400	156.400	COMMERCIAL - INTERSHIP
09	156.450	156.450	COMMERCIAL - Ship/Coast
10	156.500	156.500	COMMERCIAL - INTERSHIP, Ship/Coast
11	156.550	156.550	COMMERCIAL - INTERSHIP, Ship/Coast
12	156.600	156.600	PORT OPERATIONS - INTERSHIP, Ship/Coast
13	156.650	156.650	NAVIGATIONAL - INTERSHIP, Ship/Coast
14	156.700	156.700	PORT OPERATIONS - INTERSHIP, Ship/Coast
15	156.750	156.750	WEATHER
16	156.800	156.800	DISTRESS, SAFETY AND CALLING
17	156.850	156.850	STATE CONTROL - Ship/Coast
18A	156.900	156.900	COMMERCIAL - INTERSHIP, Ship/Coast
19A	156.950	156.950	COMMERCIAL - INTERSHIP, Ship/Coast
20	157.000	161.600	PORT OPERATIONS - Ship/Coast
21	157.050	161.650	COAST GUARD
21A	157.050	157.050	COAST GUARD
22A	157.100	157.100	COAST GUARD
23	157.150	161.750	COAST GUARD
23A	157.150	157.150	COAST GUARD
24	157.200	161.800	PUBLIC CORRESPONDENCE - Ship/Coast
25	157.250	161.850	PUBLIC CORRESPONDENCE - Ship/Coast
26	157.300	161.900	PUBLIC CORRESPONDENCE - Ship/Coast
27	157.350	161.950	PUBLIC CORRESPONDENCE - Ship/Coast
28	157.400	162.000	PUBLIC CORRESPONDENCE - Ship/Coast
65A	156.275	156.275	PORT OPERATIONS - INTERSHIP, Ship/Coast
66A	156.325	156.325	PORT OPERATIONS - INTERSHIP, Ship/Coast
67	156.375	156.375	COMMERCIAL - INTERSHIP
68	156.425	156.425	NON-COMMERCIAL - INTERSHIP, Ship/Coast
69	156.475	156.475	NON-COMMERCIAL - Ship/Coast
70	156.525	156.525	NON-COMMERCIAL - INTERSHIP
71	156.575	156.575	NON-COMMERCIAL - Ship/Coast
72	156.625	156.625	NON-COMMERCIAL - INTERSHIP
73	156.675	156.675	PORT OPERATIONS - INTERSHIP, Ship/Coast
74	156.725	156.725	PORT OPERATIONS - INTERSHIP, Ship/Coast
77	156.875	156.875	COMMERCIAL - INTERSHIP
78A	156.925	156.925	NON-COMMERCIAL - Ship/Coast
79A	156.975	156.975	COMMERCIAL - INTERSHIP, Ship/Coast
80A	157.025	157.025	COMMERCIAL - Ship/Coast
81A	157.075	157.075	COAST GUARD
82A	157.125	157.125	COAST GUARD
83A	157.175	157.175	COAST GUARD AUX.
84	157.225	161.825	PUBLIC CORRESPONDENCE - Ship/Coast
85	157.275	161.875	PUBLIC CORRESPONDENCE - Ship/Coast
86	157.325	161.925	PUBLIC CORRESPONDENCE - Ship/Coast
87	157.375	161.975	PUBLIC CORRESPONDENCE - Ship/Coast
88	157.425	162.075	COMMERCIAL - INTERSHIP

*NOTE: The frequency of Channel 02 (Weather) was changed to 162.475 MHz in Models with serial numbers C030000 and subsequent.