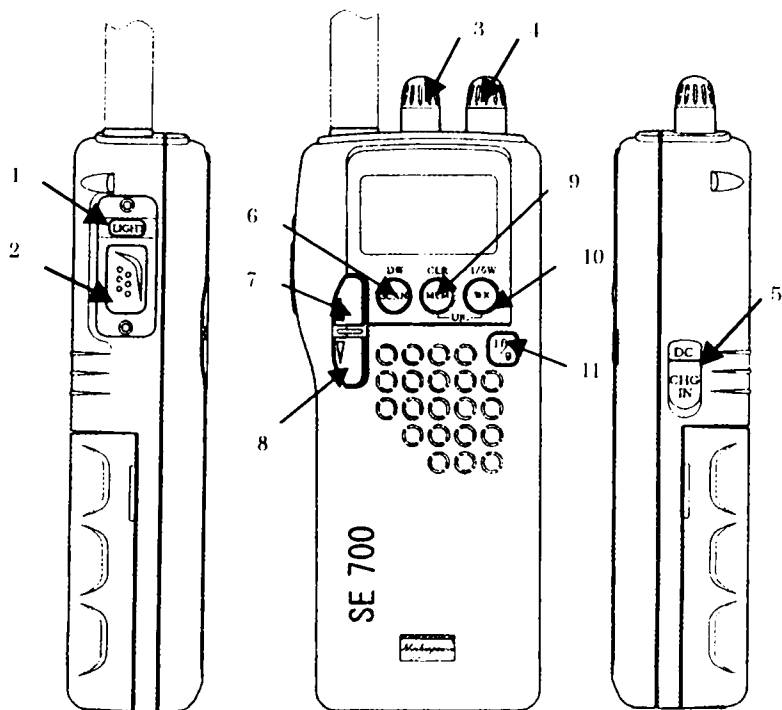
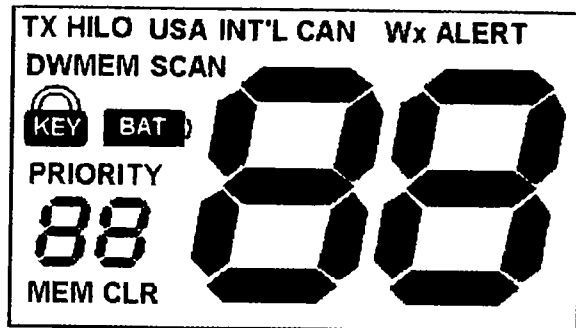


## SE700 Marine VHF Radio



- |                                           |                          |
|-------------------------------------------|--------------------------|
| 1. Light key & Lock key                   | 2. PTT key               |
| 3. Squelch Knob                           | 4. Power On/Off & Volume |
| 5. Battery Charger Connector.             | 6. SCAN & DW key         |
| 7. Channel-Up key                         | 8. Channel-Down key      |
| 9. MEM & CLR key                          | 10. WX & 1/5W key        |
| 11. Priority 16/9 & Last Channel Used Key |                          |

### Display



### 1. LIGHT KEY

- Press the LIGHT KEY and the backlight will toggle 'ON' and 'OFF'.  
**Note :** The backlight will go OFF automatically after 5 seconds of no keypad activity.
- When the LIGHT KEY is pressed and held for 1.5 seconds, The unit will lock all key operations and the 'KEY' icon will appear on the LCD (KEY LOCK MODE)  
**Note:** All key operation will be prohibited except for the PTT and LIGHT KEYS.
- To exit the KEY LOCK MODE, press and hold the LIGHT KEY for another 1.5 seconds.

### 2. PTT KEY

The Radio will transmit when the PTT KEY is pressed, except when the radio is on a weather channel or non-transmit channel. If the user attempts to transmit on one of these channels, a warning alarm beep will sound.

**Note:** After 5 continuous minutes of transmitting, a built in timer will cause it to stop transmitting and an alarm will sound. Releasing and pressing the PTT key again will resume TX Mode. This is an FCC requirement.

### 3. SQUELCH KNOB

Reduce squelch by turning the SQUELCH KNOB counter clockwise and increase squelch by turning the SQUELCH KNOB clockwise.

### 4. ON / OFF VOLUME KNOB

- To turn the radio 'ON', rotate the VOLUME KNOB clockwise
- The audio volume will increase as the knob is turned clockwise after the unit is 'ON'.
- Turning the knob counter clockwise will decrease the volume.
- A full counter clockwise turn will switch 'OFF' the radio.

### 6. SCAN & DW KEY

- A short press of the SCAN KEY starts ALL SCAN. SCAN will be displayed on the LCD
- A long press of the SCAN KEY starts the DUAL WATCH MODE with WX ALERT. The LCD will display DW, WX, PRIORITY CHANNEL and the WORKING CHANNEL.  
**NOTE:** When the radio is in ALL SCAN Mode, the user cannot go directly into the DUAL WATCH MODE. You must first exit SCAN MODE.
- A short press of the SCAN KEY while in the MEMORY STANDBY MODE will start MEMORY SCAN. MEM & SCAN will be displayed on the LCD. (See section 9, MEM KEY for details on the MEMORY SCAN function)

- d) When in ALL SCAN and MEM SCAN mode, the user may set the radio to skip a channel that continuously stops the scanning sequence. To set the *Skip Channel Feature*, press and hold the MEM KEY for 1.5 seconds while the radio is paused on the channel to be skipped. This process is required each time the ALL SCAN mode is entered.
- e) To cancel the SCAN MODE press any key *except the MEMORY and LIGHT keys*. Upon cancellation of SCAN MODE, the radio be on the channel shown on the LCD at the time SCAN MODE was cancelled.

#### TYPES of SCAN

- **ALL SCAN:** scans all channels
- **DUAL WATCH with WEATHER ALERT:** scans the Current Channel, the Priority Channel (16 or 9), and monitors the last used Weather Channel for a possible NOAA WX Alert.
- **DUAL WATCH without WEATHER ALERT:** scans the Current Channel and the Priority Channel(16 or 9).  
**NOTE:** Please refer to "9. MEM KEY & CLR KEY " Item e) for instruction)
- **MEMORY SCAN:** scans channels the user stored in memory.

#### 7. UP KEY

When the UP KEY is pressed the channel will move up one channel per press(+1).  
If pressed and held the channels will rapidly change upwardly.

#### 8. DOWN KEY

When the DOWN KEY is pressed the channel will move down one channel per press (-1).  
If pressed and held the channels will rapidly change downwardly.

#### 9. MEM KEY & CLR KEY

- a) A short press of the MEMORY KEY puts the unit into MEMORY STANDBY MODE. The 'MEM' icon will blink on the LCD.
- b) When the MEMORY KEY is pressed while in the MEMORY STANDBY MODE, the radio will enter the MEMORY CHANNEL DISPLAY MODE. In this mode memory channels will be displayed in the small channel display starting with the lowest number. To review all the channels stored in memory, use the UP or DOWN KEYS. A quick press of either key reviews the channels one at a time. For a continuous rotation through the memory channels, press and hold down either key. 'MEM' will blink on the display and "Pg" will be displayed in the large channel display.
- c) A long press of the MEMORY KEY will cancel this mode.  
**NOTE:** The MEMORY CHANNEL DISPLAY MODE will self cancel after 5 seconds of no keypad activity.

- d) STORE/DELETE MEMORY CHANNELS: A long press of 1.5 seconds or more will store the current channel into memory and 'MEM' will appear on the LCD. If the current channel is already stored in memory, it will be deleted and 'CLR' will be displayed on the LCD for 2 seconds, replacing 'MEM'.
- e) To cancel the WEATHER ALERT: Press and hold the MEM key for 1.5 sec. WX will be removed from the LCD and only DW, PRIORITY CHANNEL and the WORKING CHANNEL will be shown. To reactivate WEATHER ALERT, press and hold the MEM key for 1.5sec. again or,exit the DW mode and re-enter the DW mode.

#### 10. WEATHER & 1/5W KEY

- a) The WX KEY will switch between the working channel and the weather channel each time it is pressed.
- b) A press of 1.5 seconds or more will change the TRANSMIT POWER, each time switching between 1W and 5W.

#### 11. 16/9 PRIORITY CHANNEL KEY

A short press of the 16/9 KEY will toggle between the working channel and the *user programmed PRIORITY CHANNEL*. To *program the priority channel*, press and hold the 16/9 KEY for 1.5 seconds. Each press toggles between channels 16 and 9. Channel 16 is the default priority channel.

**NOTE:** The PRIORITY CHANNEL must be set individually for each of the USA, INTERNATIONAL and CANADIAN frequency modes.

#### 12. COMBINATION KEY FUNCTIONS

##### a) Selecting USA, International and Canadian Channels

Pressing the MEM KEY and the WX KEY at the same time will change the channel banks. The frequency mode consists of USA, INT'L and CAN channels and the rotation is as follows: USA→INT'L; INT'L→CAN; CAN→USA. The chosen frequency mode will be displayed on the LCD as: 'USA', 'INT'L', or 'CAN'.

##### b) Clearing the Memory Bank

With the SE700 turned off, press and hold the MEM KEY while turning on the radio to clear *all channels* stored in memory scan and to reset the radio to its factory default settings.

#### 13. BATTERY LEVEL INDICATOR

When the battery pack becomes low on power, 'BAT' will be displayed continuously on the LCD indicating only a few minutes of normal operating power remains. It is highly recommend that the batteries be recharged or replaced at this time. When the battery level is critically low, 'BAT' will "Flash" and the radio may stop working without any further warning.

**WARNING:** Be sure to carefully read and follow all instructions and precautions stated in the RAPID POWER BATTERY SYSTEM section.

# Shakespeare Rapid Power Battery System

## CHARGER INSTRUCTIONS

Your SE700 comes with a high performance Nickel Metal Hydride (Ni-MH) battery pack for extended radio talk time. Its 1300 mAh capacity is about twice that of a normal Ni-CD battery pack.

## CAUTIONS

- The SE700 radio is shipped with the Ni-MH battery pack discharged. Fully charge the battery pack before using.
- When using the supplied 'AA' Alkaline Battery Pack case, the charge jack is disabled for your safety. **DO NOT attempt to alter this safety feature or to charge alkaline batteries as it could damage the SE700 and you could be seriously injured**
- Charge the Ni-MH battery pack using only the **Rapid Power** cigarette lighter charger supplied with the SE700. Only charge the battery pack while it is inside the radio
- **DO NOT** connect any power source directly to the SE700 charging jack as it will damage the radio, the battery pack and void the warranty. Connect only the **Rapid Power** cigarette lighter charger/adaptor to the Charging Jack.
- **DO NOT** dispose of the **Rapid Power** Battery Pack in fire, insert backwards, or short circuit as the battery may leak, get hot, or explode, causing personal injury.
- Use **only** the supplied **Rapid Power** AC Wall Adapter to charge the radio when connected to any 115VAC supply. The cigarette lighter Charger maybe operated from any VDC input voltage from 10 to 18 volts.

## OPERATING INSTRUCTIONS

- Plug the charger into the supplied AC Wall Adapter or Vessel's DC cigarette lighter outlet until it fully bottoms. This assures good contact. If charging from a European car's cigarette lighter socket, a special end-adaptor kit is provided for a better fit. Simply unscrew the fused end of the charger and replace the end-adaptor. A 2-amp fuse is supplied.
- Plug the charger cord into the SE700 charger jack. The bright RED LED indicates that "Fast Charge" current is flowing. The LED will not come on if there is improper contact in the Vessel's cigarette lighter socket. The bright GREEN LED indicates "Slow Charge" current is flowing. The **Rapid Power** charger uses Shakespeare's exclusive "taper down" battery charging technology. This assures a quick initial charging current of about 600 mA and tapers down to about 100 mA when the battery has reached full capacity. The "Slow Charge" current is about 80mA and is used for battery maintenance.

- If you see the LOW BATTERY Indicator flashing on the SE700 LCD, you have only a few minutes of normal talk-time remaining. Turn the radio OFF and recharge the battery as soon as possible. **DO NOT** leave the radio 'ON' to totally discharge the battery.

- Charge time required for a full charge depends upon battery condition and the charge mode selected. In "Fast Charge" mode, a completely dead battery will take about 3-4 hours to acquire a full charge. It is OK to leave the charger in the "Fast Charge" (RED) mode overnight, however a "Slow Charge" is recommended when this amount of time is available. The battery pack section of the radio will appear warm to the touch in "Fast Charge" (RED) mode. This is normal.

If extended time is available, manually switch the charger to "Slow Charge" (GREEN) mode and charge for 16-18 hours. It is OK to leave the charger in the "Slow Charge" (GREEN) mode for up to 2 weeks.

**Important:** Once a "Fast Charge" or "Slow Charge" cycle has been started, **DO NOT** disrupt it until the battery pack has been fully recharged. Interrupting recharge cycles can reduce battery life.

- There is NO memory effect with Ni-MH batteries, as is customary with Ni-CD cells. Therefore, do not short the battery pack or leave the radio 'ON' to totally discharge the battery pack. The service life of the Ni-MH battery pack is about 500 charge/discharge cycles. If you notice a decrease in talk time over the years, call Shakespeare for a replacement Battery Pack. Order P/N 35-55-0809-00.
- To use Alkaline batteries, insert five 'AA' cells into the supplied battery case. Be sure to observe polarity as indicated on the battery case. When the alkaline batteries become low, remove them and properly dispose according to instruction on the cells.

**DO NOT attempt to recharge alkaline batteries as it could damage the SE700 and you could be seriously injured.**

# Technical Specifications

## 1.0 General

### 1.1 Frequency Range

Transmit: 156.025 - 157.425MHz

Receiver: 156.025 - 163.275MHz

### 1.2 Power Supply

6.0V

### 1.3 Ground

Negative (-)

### 1.4 Operation temperature

-20° C +50° C

### 1.5 Antenna impedance

50 ohms

### 1.6 Antenna connector

SMA

## 2.0 Transmit Specifications

### 2.1 RF Power output

5W/1W

### 2.2 Frequency stability

+/- 10ppm

### 2.3 Modulation limiting

+/- 5kHz

### 2.4 FM hum & noise

Less than 40 dB

### 2.5 Conducted spurious emissions

43+10logP (dB)

### 2.6 Audio frequency response

6dB/oct(+1/-3) 300Hz to 2500Hz

## 3.0 Receiver Specifications

### 3.1 Usable Sensitivity

0.3uV @12dB SINAD

### 3.2 Adjacent channel rejection

70dB (+/-25kHz) nominal

### 3.3 Intermodulation response

60dB

### 3.4 Spurious response rejection

70dB (without 2<sup>nd</sup> IF image)

### 3.5 Audio frequency response

-6dB/oct (+1/-3)

### 3.6 Hum & noise

40dB

### 3.7 Audio distortion

10%

### 3.8 Audio output power

300mW

### 3.9 Squelch

Threshold: 0.3uV

Tight: 1uV

# VHF MARINE CHANNEL ASSIGNMENTS

USA Frequency DATA				INT Frequency DATA				CAN Frequency DATA			
CH	TX Frequency	PW	RX Frequency	CH	TX Frequency	PW	RX Frequency	CH	TX Frequency	PW	RX Frequency
1A	156.050		156.050	1	156.050		160.650	1	156.050		160.650
2				2	156.100		160.700	2	156.100		160.700
3				3	156.150		160.750	3	156.150		160.750
4				4	156.200		160.800	4	156.200		156.200
5A	156.250		156.250	5	156.250		160.850	5	156.250		156.250
6	156.300		156.300	6	156.300		156.300	6	156.300		156.300
7A	156.350		156.350	7	156.350		160.950	7	156.350		156.350
8	156.400		156.400	8	156.400		156.400	8	156.400		156.400
9	156.450		156.450	9	156.450		156.450	9	156.450		156.450
10	156.500		156.500	10	156.500		156.500	10	156.500		156.500
11	156.550		156.550	11	156.550		156.550	11	156.550		156.550
12	156.600		156.600	12	156.600		156.600	12	156.600		156.600
13	156.650	1	156.650	13	156.650	1	156.650	13	156.650	1	156.650
14	156.700		156.700	14	156.700		156.700	14	156.700		156.700
15				15	156.750	1	156.750	15			156.750
16	156.800		156.800	16	156.800		156.800	16	156.800		156.800
17	156.850	1	156.850	17	156.850	1	156.850	17	156.850	1	156.850
18A	156.900		156.900	18	156.900		161.500	18	156.900		156.900
19A	156.950		156.950	19	156.950		161.550	19	156.950		156.950
20A	157.000		157.000	20	157.000		161.600	20	157.000		157.000
21A	157.050		157.050	21	157.050		161.650	21	157.050		157.050
22A	157.100		157.100	22	157.100		161.700	22	157.100		157.100
23A	157.150		157.150	23	157.150		161.750	23	157.150		161.750
24	157.200		161.800	24	157.200		161.800	24	157.200		161.800
25	157.250		161.850	25	157.250		161.850	25	157.250		161.850
26	157.300		161.900	26	157.300		161.900	26	157.300		161.900
27	157.350		161.950	27	157.350		161.950	27	157.350		161.950
28	157.400		162.000	28	157.400		162.000	28	157.400		162.000
60				60	156.025		160.625	60	156.025		160.625
61				61	156.075		160.675	61	156.075		156.075
62				62	156.125		160.725	62	156.125		156.125
63A	156.175		156.175	63	156.175		160.775	63			
64				64	156.225		160.825	64	156.225		156.225
65A	156.275		156.275	65	156.275		160.875	65	156.275		156.275
66A	156.325		156.325	66	156.325		160.925	66	156.325		156.325
67	156.375	1	156.375	67	156.375	1	156.375	67	156.375	1	156.375
68	156.425		156.425	68	156.425		156.425	68	156.425		156.425
69	156.475		156.475	69	156.475		156.475	69	156.475		156.475
70				70				70			
71	156.575		156.575	71	156.575		156.575	71	156.575		156.575
72	156.625		156.625	72	156.625		156.625	72	156.625		156.625
73	156.675		156.675	73	156.675		156.675	73	156.675		156.675
74	156.725		156.725	74	156.725		156.725	74	156.725		156.725
75				75				75			
76				76				76			
77	156.875	1	156.875	77	156.875	1	156.875	77	156.875	1	156.875
78A	156.925		156.925	78	156.925		161.525	78	156.925		156.925
79A	156.975		156.975	79	156.975		161.575	79	156.975		156.975
80A	157.025		157.025	80	157.025		161.625	80	157.025		157.025
81A	157.075		157.075	81	157.075		161.675	81	157.075		157.075
82A	157.125		157.125	82	157.125		161.725	82	157.125		157.125
83A	157.175		157.175	83	157.175		161.775	83	157.175		157.175
84	157.225		161.825	84	157.225		161.825	84	157.225		161.825
85	157.275		161.875	85	157.275		161.875	85	157.275		161.875
86	157.325		161.925	86	157.325		161.925	86	157.325		161.925
87	157.375		161.975	87	157.375		157.375	87	157.375		161.975
88	157.425		162.025	88	157.425		157.425	88	157.425		162.025

WX Frequency DATA	
CH	RX Frequency
0	163.275
1	162.550
2	162.400
3	162.475
4	162.425
5	162.450
6	162.500
7	162.525
8	161.650
9	161.775