Ocean Signal

User Manual

for the

SafeSea™ V100

GMDSS Survival Craft Portable Two Way VHF Radiotelephone

ocean
SIGNAL

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Note: the use of this radio for transmitting may be covered by licensing requirements in the country it is being operated in. Please contact your regulatory authority for guidance.

Basic Operation

- In emergency ensure the yellow Lithium primary battery is fitted.

- Before operation break off the red security tag from the battery.

- Turn on by pressing the ⏻ key

- The radio will turn on with the distress and calling channel, 16, already selected

- Use the **PTT** key to transmit

- Use the **▲** and **▼** keys to select the required channel

- Use the **VOL** key followed by the **▲** and **▼** keys to adjust the speaker volume

- Use the **SQ** key followed by the **▲** and **▼** keys to adjust the squelch (muting) level
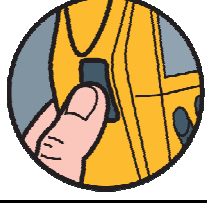
Activate in Emergency

① Break seal on battery

② Turn ON ⏻☼

Select Channel

VOL Press volume then adjust

SQ Press sqelch then adjust

Press PTT key to transmit

DEACTIVATE Press and hold ⏻☼

To transmit a MAY DAY call the following procedure should be followed.

Ensure the transmitter is turned on, channel 16 is selected and the PTT key is pressed. Announce the following clearly into the radio

---

MAYDAY - MAYDAY - MAYDAY

This is [*Ship's Name*] - This is [*Ship's Name*] - This is [*Ship's Name*]

MAYDAY [*Ship's Name or Call Sign*]

Position…………. [LAT and LON or description]

Nature of Distress is ……….. [*State the aid required*]

The Number of Persons on board is… [*followed by any useful information*]

Over

Release the PTT key and listen for a reply. Repeat if necessary.

Contents

General

Exposure to RF Electromagnetic Energy

This product has been evaluated for compliance with the FCC RF exposure limits given in CFR 47 part 1.307(b) at a distance of greater than 2.5cm.

⚠ Do not operate this radio without the antenna attached or with a damaged antenna.

⚠ Always operate the radio with the antenna at least 2.5cm (1inch) away from your head and do not transmit for more than 50% of the total time the radio is used.

⚠ The use of this radio may be covered by licensing requirements in the country of use. Please check with your local regulatory body before use.

V100 Overview
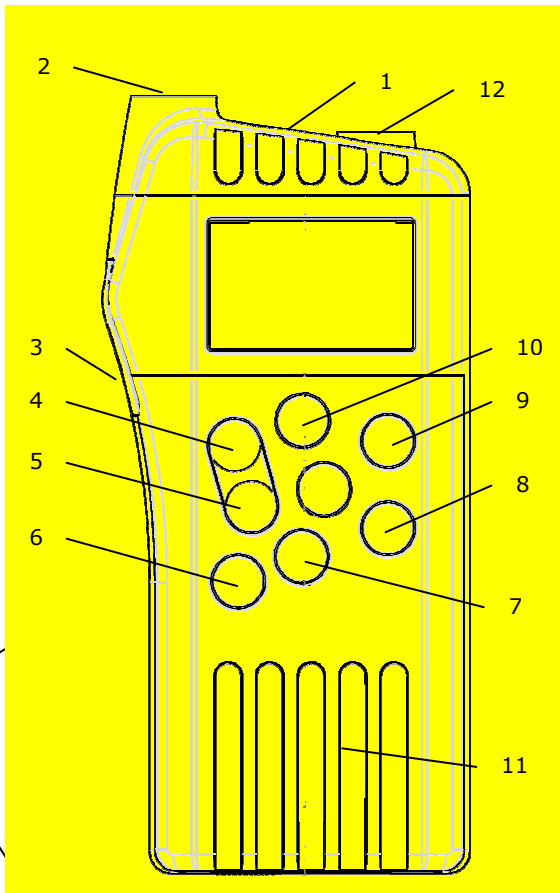
1. ON/OFF and LIGHTS key
2. Antenna Socket
3. Press to Talk (PTT) key
4. Channel Up key
5. Channel Down key
6. Scan key
7. Dual Watch (D/W) key
8. Hi/Lo Power key
9. Channel 16 select key
10. Volume Select key
11. Speaker and Microphone
12. Accessory socket (Option)
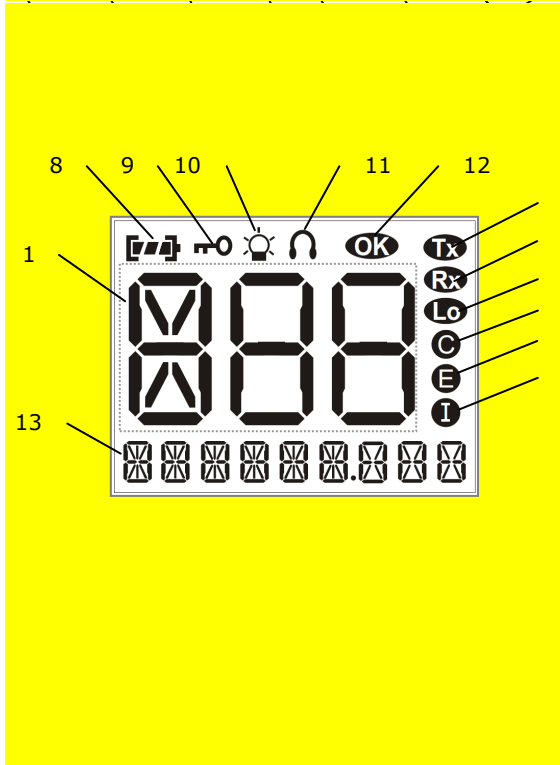
1. Channel Number
2. Transmit legend
3. Receive legend
4. Low Power legend
5. Call channel legend
6. Memory Scan Enable legend
7. Scan Inhibit legend
8. Battery Status legend
9. Keypad Locked legend
10. Lights active legend
11. Accessory legend
12. Confirmation legend
13. Additional information

Operation

Ensure the radio is fitted with a charged battery before commencing use.

Switching On

Press the ⏻ key to turn the SafeSea™ V100 on. The LCD will start showing information, with channel 16 as the selected channel.

Switching Off

Press and hold the ⏻ key for 3 seconds to turn the radio off. The LCD will go blank when the key has been held for long enough.

Channel Selection

Pressing the ▲ or ▼ keys will scroll through the available channels. Release the key when the required channel is displayed. (See Table 1 for the available channels and recommendations for use.)

Channel 16 selection

Pressing the 16 key will select channel 16 at high power. If 16 is already selected, this key will select the user designated CALL channel.

Transmitting

Press the PTT key on the side of the radio to transmit. The microphone is located under the speaker grille. Release the key when you have finished talking.

Note: It is good practice to keep transmissions as short as possible. This will minimise battery discharge and ensure that you are not interfering with other users of the channel.

Note: Ensure the correct channel is selected and that there is no other transmission audible before pressing the PTT to avoid interference with other users

Volume Adjustment

To adjust the volume level in the speaker, press the VOL key. The ▲ or ▼ keys may now be used to adjust the volume Up or Down respectively. After two seconds of inactivity the operation of the selection keys will revert to channel change.

Squelch Adjustment

To adjust the volume level in the speaker, press the SQ key. The ▲ or ▼ keys may now be used to adjust the Squelch Up or Down respectively. After two seconds of inactivity the operation of the selection keys will revert to channel change.

Note: Squelch should be adjusted to a level where background noise and weak, unreadable signals do not open the mute. Experience will show what the best setting is for the local environment.

To monitor a channel without adjusting squelch settings, press and hold the **SQ** key until a double beep is heard.

Note: The squelch will remain open while the key remains pressed or will stay in this mode until the key is pressed again for a double beep, depending on the mode selected in the menu

Lights Adjustment

To turn the lights on or off and adjust the level, press the ⏻ key. The **▲** or **▼** keys may now be used to adjust the backlighting level from off through five levels to maximum. After two seconds of inactivity the operation of the selection keys will revert to channel change.

Dual Watch

Press the **D/W** key to initiate the Dual Watch mode. The radio will now start sampling the selected working channel selected and channel 16 for signals.

Pressing the **D/W** or **▼** key will terminate Dual Watch.

Note: There will be no action if the radio is on channel 16 when the **D/W** key is pressed.

Tri-Watch

Pressing and holding the **D/W** key for 1 second will initiate a triple channel watch between the selected working channel, the user programmed Call channel and channel 16.

Pressing the **D/W** or **▼** key will terminate Tri-Watch.

Note: a working channel and call channel must have been entered before this key press will have any action.

Scan

Press and hold the **SCAN** key until a double beep is heard. The radio will now start scanning all the channels in the radio for a signal.

To exit the scan mode, press the **SCAN** or **▼** key.

Often a channel will appear to exhibit a permanent signal or is frequently used for traffic that is of no interest. In this case when the scan has stopped on the channel, pressing and holding the **SCAN** key until the double beep is heard will inhibit the channel from being scanned.

Memory Scan

To enter the Memory Scan mode, press the **SCAN** key. The radio will now start scanning only those channels that are entered into the scan memory for a signal.

Note: if there are no channels already entered, pressing this key will have no effect.

To exit the Memory Scan mode, press the **SCAN** or ▼ key.

Scan advance

In any of the scanning modes, pressing the ▲ key will advance the scan on one channel.

Setting Scan Channels

In the normal radio mode, it is possible to set scanning options for each channel.

To enter channels into the scan memory, select the required channel and double press the **SCAN** key. The **E** legend will appear on the LCD to indicate this channel is in the scan memory.

If the channel was already marked as a Memory Scan channel, this operation will remove it from the scan memory and the **E** legend will disappear.

To inhibit a channel from the all scan memory, press and hold the **SCAN** key until a triple beep is heard. This will inhibit the channel from scanning and the **I** legend will appear on the LCD

If the channel was already inhibited as a scan channel, this operation will enable it again and the **I** legend will disappear.

Menu

In the menu mode the following options are available:- Memory Scan Enable, All Scan Inhibit, Key Lock, Key Beep Disable, Scan Dwell Time, Light Dwell Time, Squelch Override Defeat, Squelch Override Time, Calling Channel Select, Last Used Channel Enable, Serial number, Software Issue.

To enter the Menu Mode, press and hold the **VOL** key until a double beep is heard.

Press the Enter key (Sq) to select the available options.

Once in the Menu mode, use the ▲ or ▼ keys to scroll through the options listed above. The menu option will be displayed in the additional area of the LCD screen.

When the desired option is selected, press the **SQ** key to adjust the setting or value, shown in the channel number.

Use the ▲ or ▼ keys to adjust the value.

Press the **SQ** key to enter the new value.

Press the **16** key or press and hold the **VOL** key to exit Menu mode.

Individual Menu Modes

Mem Scan Enable (MSCAN EN)

In this Menu mode the channels that are marked for Memory Scan are shown. Any number of channels may be so marked.

All Channel Scan Inhibit (ASCAN INH)

In this Menu mode the channels will be shown for marking as inhibited (or for re-enabling) for All Channel Scan. Any number of channels can be so marked.

Key Lock (KEY LOCK)

This Menu mode allows the user to toggle the key lock functionality On or Off.

Key Beep Disable (KEY BEEP)

This Menu mode allows the user to toggle the key beep On or Off.

Scan Dwell Time (SCAN DWEL)

This Menu mode allows selection of the dwell time in Scanning that the radio stays on the channel after the received signal has gone away. The value shown is in seconds.

Light Dell Time (LIGHT DWELL)

This menu mode allows selection of the time that the lights stay on after the last key press. The value shown is in seconds.

Squelch Overide (SQ DEFEAT)

This Menu mode option allows the user to select the squelch override mode. The options are 'override while **SQ** key is pressed' and 'override until the **SQ** key is pressed and held again until the double beep is held'.

Squelch Override Time (SQ TIMER)

This option allows the time the squelch override is open. It can be adjusted between 1 and 10seconds.

Calling Channel Select (CALL CHAN)

This Menu mode allows selection of the Calling channel. This is the channel that the 16 key uses to toggle between channels.

Last Used Channel enable (LAST CHAN)

This menu mode sets the radio to use the last used channel when it is turned on. The Default is Off, in which case channel 16 is the default channel on turn on.

Serial number

This Menu Mode displays the radios serial number. The value cannot be changed by the user.

SOFTWARE

This Menu mode displays the current software version number. The value cannot be changed by the user.

Batteries

Always ensure that the correct type of battery is fitted before operating your radio.

There are two types of battery available.

> The RB5V Lithium Polymer rechargeable battery is suitable for normal everyday use of the radio. This battery should only be charged in the recommended charger.

> The LB4V Lithium primary battery is for use in emergency only. This battery is not rechargeable and is protected from accidental use by a break-off tab. The LB4V is easily identifiable because of its bright yellow colour

To remove the battery, press the grey button on the base of the radio in. This will release the battery clip and allow the battery to be removed.

To fit the battery, push the top of the battery into the radio, before pressing it home at the bottom. Ensure that the grey button has locked the battery in place.

Warnings

- Do not attempt to charge the LB4V primary battery
- Do not short circuit the battery terminals
- Do not incinerate batteries
- Do not attempt to puncture or dismantle batteries
- Avoid exposing batteries to direct sunlight or temperatures below -20°C (-4°F) or above 60°C (140°F)
- In case of exposure to the cell contents, wash the affected area thoroughly and seek medical attention.

Failure to follow these warnings may result in injury or damage to surrounding property.

Extreme temperature caused by the failure to observe the above warnings may result in the battery exploding or catching fire.

Dispose of batteries in a responsible manner. National or local regulations on battery disposal may apply including restricting the disposal of batteries in domestic refuse.

Charging

Note: Always use the recommended charger and mains adaptor when charging the RB5V battery pack. The charger may also be connected to a DC supply of between 10.8V and 15.6V (12Volt battery system)

Note: Always make sure the battery (or radio with battery inserted) is dry before placing it into the charger.

Make sure the charger is already powered up. The **Green** power LED will now be lit up. Place the radio into the charger base and ensure it locks in place. The **Red** status LED will start flashing to indicate the battery is charging. On completion of the charge, the **Red** LED will stop flashing and be permanently illuminated.

If the battery is faulty or is failing to make contact, then the **Red** LED will not be illuminated. Check that the charging contacts on the battery are clean and retry. If the **Red** LED still fails to light, this indicates that the battery is faulty and needs replacing.

Note: It is not recommended to transmit with the V100 while it is in the charger.

Appendix

Maintenance and Troubleshooting

The V100 Radiotelephone should not need servicing during its lifetime, with the exception of changing the primary Lithium battery before the marked expiry date. The following procedure is recommended to be carried out on a monthly basis.

Regular cleaning, inspection and testing are advised – clean any grime or salt residue off the unit with a weak solution of detergent in warm water. Never use solvents as this may affect the structural integrity of the plastics used.

Check the primary battery visually to ensure that the break-off tab is intact and that there are no signs of damage on the battery case. Inspect the radio for signs of damage and, using a rechargeable battery, test the radio for transmit and receive using a non-emergency channel.

Channels

#	Tx	Rx	I	U	C	#	Tx	Rx	I	U	C
01	156.050	*160.650*	D	S	D	60	156.025	*160.625*	D	-	D
02	156.100	*160.700*	D	-	D	61	156.075	*160.675*	D	S²	S
03	156.150	*160.750*	D	S²	D	62	156.125	*160.725*	D	-	S
04	156.200	*160.800*	D	-	S	63	156.175	*160.775*	D	S	-
05	156.250	*160.850*	D	S	S	64	156.225	*160.825*	D	S²	D
06	**156.300**		S	S	S	64A	156.225		-	-	S
07	156.350	*160.950*	D	S	S	65	156.275	*160.875*	D	S	S
08	**156.400**		S	S	S	66	156.325	*160.925*	D	S	S
09	**156.450**		S	S	S	67	**156.375**		S	S	S
10	**156.500**		S	S	S	68	**156.425**		S	S	S
11	**156.550**		S	S	S	69	**156.475**		S	S	S
12	**156.600**		S	S	S	70	156.525		-	-	-
13	**156.650**		S	S	S	71	**156.575**		S	S	S
14	**156.700**		S	S	S	72	**156.625**		S	S	S
15	**156.750**		S	S¹	S	73	**156.675**		S	S	S
16	**156.800**		S	S	S	74	**156.725**		S	S	S
17	**156.850**		S	S¹	S	75	**156.775**		S¹	-	S¹
18	156.900	*161.500*	D	S	S	**76**	**156.825**		S¹	-	S¹
19	156.950	*161.550*	D	S	S	**77**	**156.875**		S	S	S
20	157.000	*161.600*	D	S	D	78	156.925	*161.525*	D	S	S
21	157.050	*161.650*	D	S²	D	79	156.975	*161.575*	D	S	S
22	157.100	*161.700*	D	S	S	80	157.025	*161.625*	D	S	S
23	157.150	*161.750*	D	S	D	81	157.075	*161.675*	D	S²	S
24	157.200	*161.800*	D	D	D	82	157.125	*161.725*	D	S²	S
25	157.250	*161.850*	D	D	D	83	157.175	*161.775*	D	S²	D
26	157.300	*161.900*	D	D	D	83A	157.175		-	-	S
27	157.350	*161.950*	D	D	D	84	157.225	*161.825*	D	D	D
28	157.400	*162.000*	D	D	D	84A	157.225		-	S	
29	157.450		-	-	-	85	157.275	*161.875*	D	D	D
						85A	157.275			S	
						86	157.325	*161.925*	D	D	D
						86A	157.325			S	
						87	157.375		S	S	S
						88	157.425		S	S	S

¹ Low power only

² these channels may not legally be used in US waters by the general public

Only channels shown in bold are available in the GMDSS version, V100G

Specifications

Transmitter

Output Power (High)	2.5Watts
Output Power (Low)	1Watt
Modulation	FM (G3E)
Modulation Designator	16K0G3EJN
Deviation	(nominal) ±3kHz
	(peak) <±5kHz
Adjacent channel power	<-70dBc
Spurious emissions	<0.25µW

Receiver

Sensitivity (MUS)	<-113dBm
Audio Output Power	1Watt
Adjacent Channel Rejection	>70dB
Intermodulation Rejection	>65dB
Spurious Response Rejection	>70dB
Blocking	>90dBµV
Spurious emissions	<2nW

Environmental

Waterproof	1metre / 1hour
Thermal shock	25°C
Drop proof (hard surface)	1metre any side

Accessories

Lithium primary battery   **LB4V**

For use as an emergency battery, compliant with the GMDSS carriage requirements.

Lithium Polymer rechargeable battery   **RB5V**

Rechargeable battery for everyday use.

Lithium Polymer battery charger   **721S-00617**

Mains adaptor (Universal plug)

For operating the charger from the mains supply

12Volt supply lead   **TBD**

Approvals

The SafeSea™ V100 complies with the requirements of Annex A 1/5.17 of European Directive 98/85/EC as amended, for use onboard ships registered in the European Union.

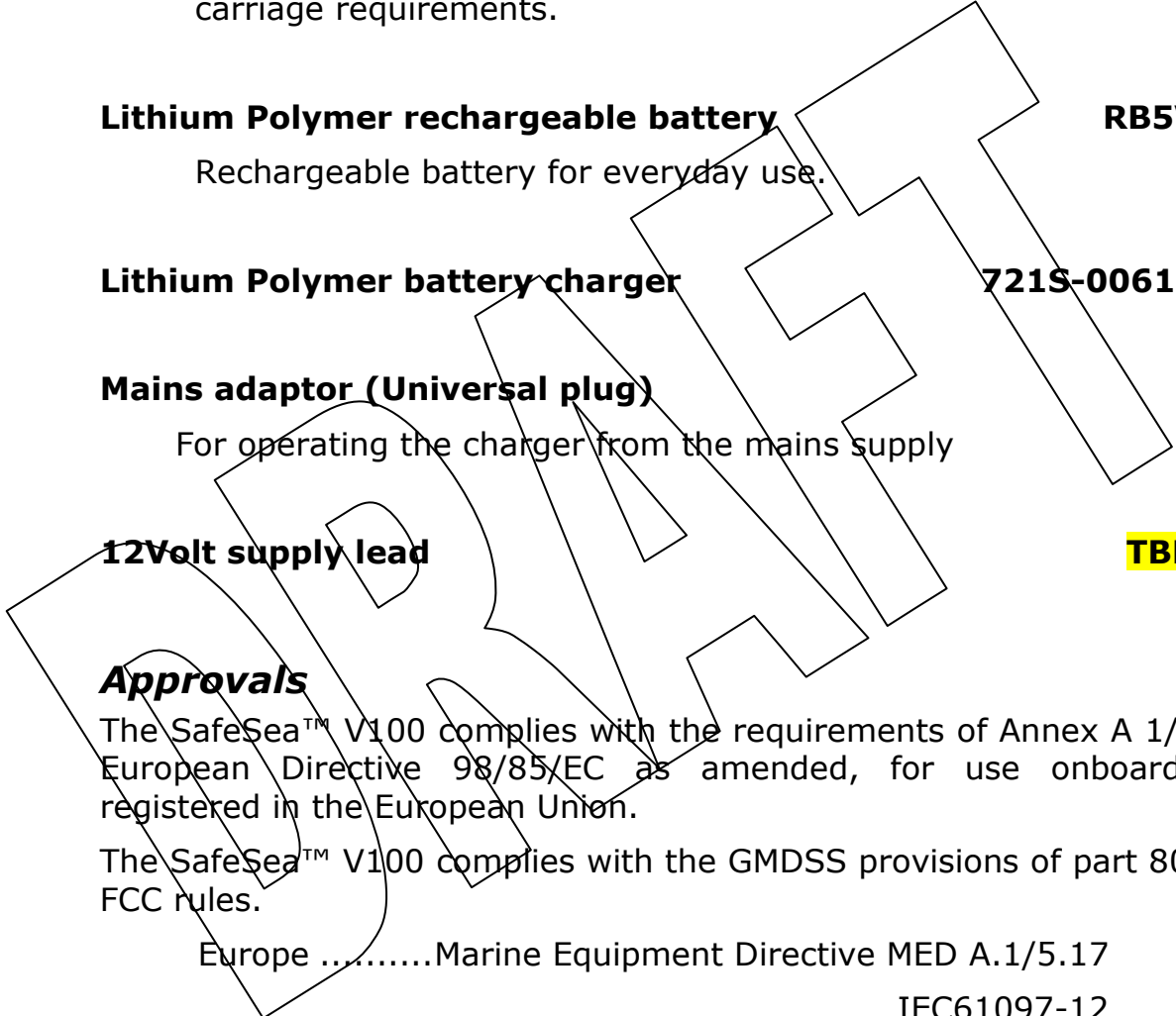The SafeSea™ V100 complies with the GMDSS provisions of part 80 of the FCC rules.

Europe ....Marine Equipment Directive MED A.1/5.17

IEC61097-12

IEC60945

USA .... FCC Approved; FCC ID: XYEV100

IMO Resolutions .... A.694(17), MSC.149(77)
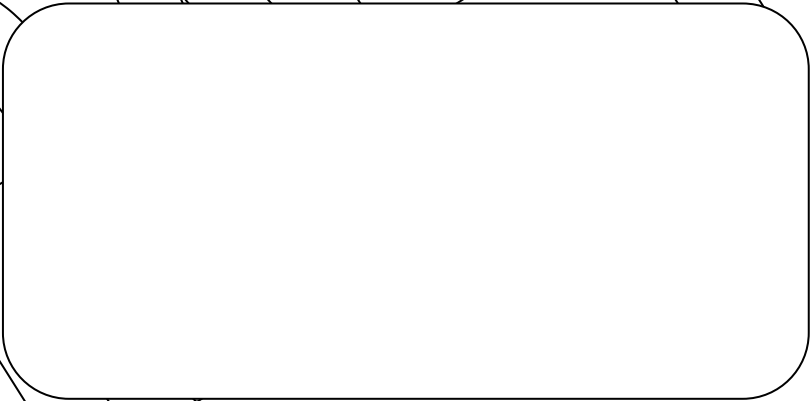
Limited Warranty

Your SafeSea V100 radiotelephone is warranted against manufacturing defects and workmanship for a period of two years from date of purchase. Ocean Signal Ltd will, at is discretion, repair or replace a faulty product free of charge, including return carriage costs to the owner.

For further assistance, please contact our Technical Service Department:

Email: service@oceansignal.com

Accidental damage and misuse or non-approved modifications are not covered by this warranty. This warranty does not affect your statutory rights.

Dealer Stamp:

Date of Purchase: ....