

**COBHAM**

# SAILOR 6249 VHF Survival Craft

User manual





# **SAILOR 6249 VHF Survival Craft**

## **User manual**

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## **Warranties**

Any attempt to install or execute software not supplied by Cobham SATCOM on this device will result in the warranty being void. Any attempt to modify the software on this device in a way not specified by Cobham SATCOM will result in the warranty being void.

## **Safety warning**

The following general safety precautions must be observed during all phases of operation, service and repair of this equipment. Failure to comply with these precautions or with specific warnings elsewhere in this manual violates safety standards of design, manufacture and intended use of the equipment. Thrane & Thrane assumes no liability for the customer's failure to comply with these requirements.

### **Ground the equipment**

To minimise shock hazard, the SAILOR 6249 VHF Survival Craft unit must be connected to an electrical ground and the cable instructions must be followed.

### **RF exposure hazards and instructions**

Your Thrane & Thrane radio set generates electromagnetic RF (radio frequency) energy when transmitting. To ensure that you and those around you are not exposed to excessive amounts of energy and thus to avoid health hazards from excessive exposure to RF energy, all persons must be at least 200 cm away from the antenna when the radio is transmitting.

### **Warranty limitation**

IMPORTANT - The radio is a sealed waterproof unit (classified IPX8). To create and maintain its waterproof integrity it was assembled in a controlled environment using special equipment. The radio is not a user maintainable unit, and under no circumstances should the unit be opened except by authorized personnel. Unauthorized opening of the unit will invalidate the warranty.

### **Installation and service**

Installation and general service must be done by skilled service personnel.

### **Compass safe distance**

Minimum safety distance: 0.85 m from the SAILOR 6249 VHF Survival Craft.

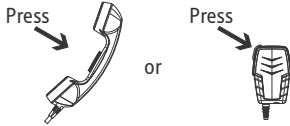
## **Alerte de sécurité**

### **Dangers liés à l'exposition aux fréquences radio et instructions**

Conformément à la réglementation d'Industrie Canada, le présent radio émetteur ne peut fonctionner qu'avec une antenne de type omnidirectionnelle, demi-onde ou d'un gain maximal de 4 dB, approuvée par Industrie Canada. Pour éviter les risques pour la santé dus à une exposition excessive aux champs de fréquences radio, une distance minimale de 200 cm est nécessaire entre l'utilisateur et le radio-émetteur.

# Emergency calls

**Make sure your VHF Radio is on CH16**



Use the **HANDSET** or **SPEAKER MICROPHONE** for voice calling

<p><b>MAYDAY-MAYDAY-MAYDAY</b> This is <b>NAME-NAME-NAME</b>  <b>CALLSIGN</b> or other <b>IDENTIFICATION</b></p>	<p><b>OWN ID</b></p> <p>SHIP's NAME: _____</p> <p>CALLSIGN: _____</p>
--	---



<p><b>MAYDAY</b> NAME of the <b>VESSEL</b> in distress CALLSIGN or other <b>IDENTIFICATION</b>  <b>POSITION</b> given as latitude and longitude or If latitude and longitude are not known or if time is insufficient, in relation to a known geographical location <b>NATURE</b> of distress Kind of <b>ASSISTANCE</b> required Any other useful <b>INFORMATION</b></p>
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99-133789



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# Preface

## Radio for occupational use

The SAILOR 6249 VHF Survival Craft fulfils the requirements of SOLAS and is intended for use in maritime environment.

SAILOR 6249 VHF Survival Craft is designed for *occupational use only* and must be operated by licensed personnel only.

SAILOR 6249 VHF Survival Craft is not intended for use in an uncontrolled environment by general public.

SAILOR 6249 VHF Survival Craft is designed for installation by a skilled service person.

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## Training information

The SAILOR 6249 VHF Survival Craft is designed for *occupational use only* and is also classified as such. It must be operated by licensed personnel only. It must only be used in the course of employment by individuals aware of both the hazards as well as the way to minimize those hazards

The radio is thus NOT intended for use in an uncontrolled environment by general public. The SAILOR 6249 VHF Survival Craft complies with the FCC RF exposure limits for *Occupational Use Only*. The radio also complies with the following guidelines and standards regarding RF energy and electromagnetic energy levels including the recommended levels for human exposure:

- FCC OET Bulletin 65 Supplement C, evaluating compliance with FCC guidelines for human exposure to radio frequency electromagnetic fields.
- American National Standards Institute (C95.1) IEEE standard for safety levels with respect to human exposure to radio frequency electromagnetic fields, 3 kHz to 300 GHz
- American National Standards Institute (C95.3) IEEE recommended practice for the measurement of potentially hazardous electromagnetic fields - RF and microwaves.

Below the RF exposure hazards and instructions in safe operation of the radio within the FCC RF exposure limits established for it are described.

## Warning

Your Thrane & Thrane radio set generates electromagnetic RF (radio frequency) energy when it is transmitting. To ensure that you and those around you are not exposed to excessive amounts of that energy (beyond FCC allowable limits for occupational use) and thus to avoid health hazards from excessive exposure to RF energy, FCC OET bulletin 65 establishes an Maximum Permissible Exposure (MPE) radius of 200 cm for the maximum power of your radio (25W selected) with an half wave omni-directional antenna having a maximum gain of 4 dB. This means all persons must be at least 200 cm away from the antenna when the radio is transmitting.

---

## Installation

1. An omni-directional antenna with a maximum power gain of 4 dB must be mounted at least 400 cm above the highest deck where people may be staying during radio transmissions. The distance is to be measured vertically from the lowest point of the antenna. This provides the minimum separation distance which is in compliance with RF exposure requirements and is based on the MPE radius of 200 cm plus the 200 cm height of an adult.
2. On vessels that cannot fulfil requirements in item 1, the antenna must be mounted so that its lowest point is at least 3 ft. (0.9m) vertically above the heads of people on deck and all persons must be outside the 200 cm MPE radius during radio transmission.
  - Always mount the antenna at least 200 cm from possible human access.
  - Never touch the antenna when transmitting
  - Use only authorized T&T accessories.
3. If the antenna has to be placed in public areas or near people with no awareness of the radio transmission, the antenna must be placed at a distance not less than 200 cm from possible human access.

Failure to observe any of these warnings may cause you or other people to exceed FCC RF exposure limits or create other dangerous conditions.

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## Manual overview

This manual has the following chapters and appendices:

- *Introduction* contains a description of the VHF radio.
- *Operation* explains how to make and receive voice calls over VHF, including how to use and set-up scanning, watch and replay.
- *Service & maintenance* contains support information including lists of accessories and a troubleshooting guide.
- Appendix with *Specifications* and *Maritime channels*.

### Important

**All installation information and instructions are not covered in this manual.** Please download the **SAILOR 6249 VHF Survival Craft Installation manual** at <http://www.cobham.com/about-cobham/communications-and-connectivity/about-us/satcom.aspx> .

In the installation manual you can read how to mount the VHF radio and how to connect accessories and external equipment, including detailed system configuration examples with cable specifications.

## Related documents

Title and description	Document number
<b>SAILOR 6249 VHF Survival Craft,</b> Installation guide	98-13228298- 133943
<b>SAILOR 6249 VHF Survival Craft,</b> Installation manual (download only)	98-13323398- 133942
Emergency call sheet	98-13379598- 133795

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# Introduction

## VHF radio

SAILOR 6249 VHF Survival Craft is designed for use in survival crafts. It is approved to MED and waterproof to the IPx8 and IPx6 standard. As part of the required safety equipment, use the SAILOR 6249 VHF Survival Craft in an emergency situation. However the best way to guarantee functionality in an emergency situation, is to use the radio in daily communication on board.



The VHF radio is a simplex VHF radio. It is designed with an easy-to-use menu-driven setup. You use the soft keys and the keypad to enter the desired functions, you browse and select a setting using the right selection knob. The large display can be customized for optimum readability and visibility both day and night with several color themes.

The VHF radio can replay the last 240 s of received voice messages. This is a useful feature to minimize misunderstandings and to record messages when the radio is unattended.

The Ethernet interface enables the VHF radio to be connected to ThraneLINK for service updates.

For a list of accessories available for the VHF radio see *Accessories available* on page 4 and check with your nearest distributor.

## Controls on the front plate



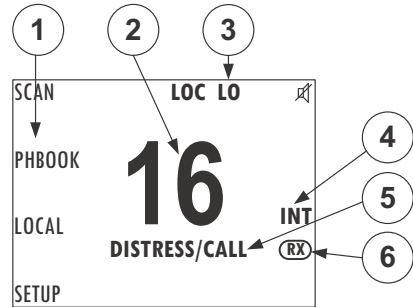
1. Loudspeaker.
2. Four soft keys with function title in the display.
3. Large display.
4. Keys 0 to 9 to enter numbers or text.
5. **DW** button to toggle the watch function.
6. **16/C** quick selection key for channel 16 and the programmed call channel.
7. Handmicrophone. If not used, put the cap from the ACC connector on the front connector to prevent water ingress.
8. Squelch control to mute background noise.
9. Volume knob with key-press function for volume control and power on/off.
10. Selector and dim knob with key-press function for general operation, display color selection and dimming.
11. **1W** button to toggle between high and low power.
12. Replay button to play back up to 240 s voice message.



## SAILOR 6249 VHF Survival Craft display






The picture shows the display after start-up. The display holds various fields of information, depending on the currently selected function.

1. Functions you can select with the soft keys.
2. Current working channel.
3. **System property icons** with information relevant for the currently selected functions.
4. Channel properties next to the currently selected VHF channel (if any).
5. **Service line** containing current temporary information relevant for the current channel or function.
6. Current state: RX or TX.



For a detailed description of the information shown for each of the functions available see the chapter *Operation* on page 7.

## Accessories available

Accessory	Description
SAILOR 6202 Hand Microphone	<p>You can use the SAILOR 6202 Hand Microphone (waterproof to IPx6 and IPx8) .</p> 
SAILOR 6207 Connection Box for parallel Handsets	<p>The SAILOR 6207 Connection Box for parallel Handsets including Connection Cable 406209-941 is used for easy installation of several Hand Microphones.</p> 
SAILOR 6208 Control Unit Connection Box	<p>SAILOR 6208 Control Unit Connection Box including Connection Cable 406208-941 is used for easy installation of external equipment and accessories:</p> <ul style="list-style-type: none"> <li>• VDR</li> <li>• SAILOR 6270 External Loudspeaker</li> </ul> 
Connection cables	<p><b>5m connection cable for bulkhead mount:</b> Use this cable in installations where the SAILOR 6202 Hand Microphone is not connected directly to the <b>SAILOR 6249 VHF Survival Craft</b>, but located in a different position (part number: 406204-940).</p>
SAILOR 6270 External Loudspeaker	<p>If you need an additional external loudspeaker you can connect a SAILOR 6270 External Loudspeaker. It provides 6 W output power.</p> 
SAILOR 6090 Power Converter 24 V to 12 V DC	<p>The SAILOR 6090 Power Converter is used to provide 12 V DC for the SAILOR 6249 VHF Survival Craft from a 24 V DC power source.</p> 

## System configuration — example

The SAILOR 6249 VHF Survival Craft can be customized to suit your installation. The following illustration is one example of a system. For further configuration examples see the installation manual, Appendix B, *System configurations*.

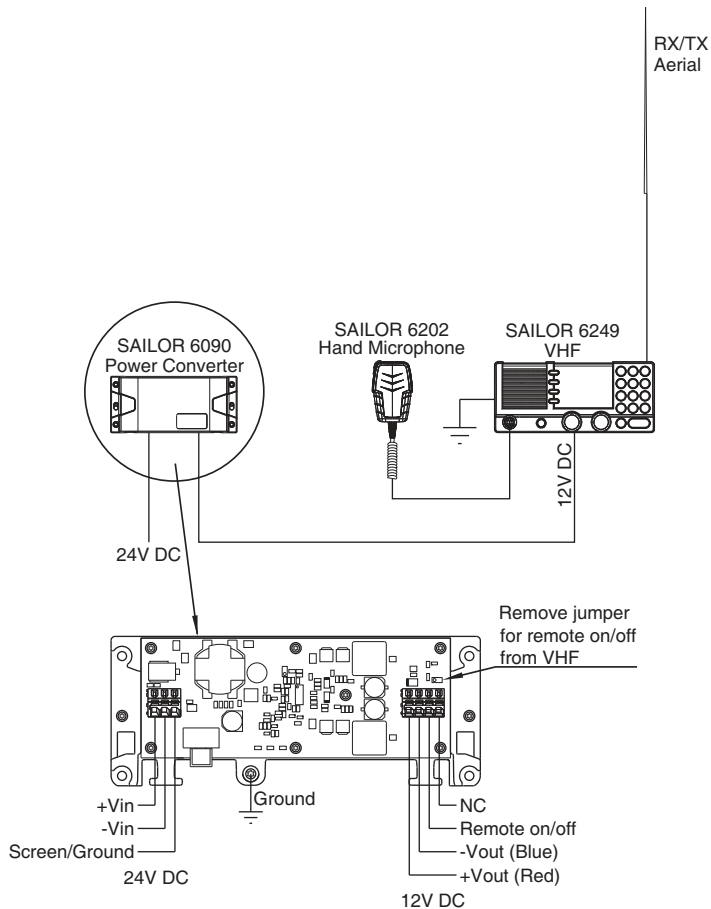


Figure 1: System configuration, example



# Operation

**Note**

Before using the VHF radio make sure that the VHF , power cable and other external equipment are connected properly. For installation instructions see the *SAILOR 6249 VHF Survival Craft, Installation manual (download only)*.

## Overview

In this chapter you find detailed instructions and guidelines for:

- *General use and navigation*
- *VHF radio communication*
- *Watch*
- *Scan*
- *Phone book*
- *Replay function*
- *Setup*


## General use and navigation

### Power on and volume in speaker

The VHF radio has a dual-function on/off knob for power on/off and volume control.

To power on the VHF radio press the on/off knob.

To power off the VHF radio, press and hold the on/off knob and follow the instructions in the display.

To adjust the speaker volume, turn the volume knob (clockwise = louder, counter clockwise = softer, until muted). When muted,  is shown in the display.



### Working channel and changing settings

Use the **selector knob** to browse and select:

- To browse and select **settings**, turn the selector knob and press for accept.
- To select a **working channel** use the selector knob or enter the channel number using the keypad. You can change channels whenever the channel designator is displayed.



**Note**

A single, short press on the **16/C** key always brings you to **channel 16**, the international calling and distress channel, no matter what state the radio is in.



## Speaker devices

The VHF radio can be equipped with the following speaker device:

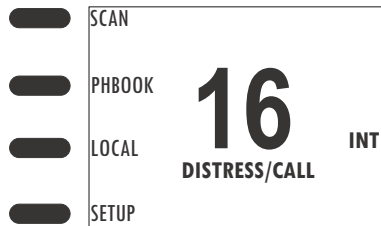
- SAILOR 6202 Hand Microphone with PTT button.

See *Controller setup* on page 22 for controlling the connected speaker device.

## Soft-key functions

A number of functions of the SAILOR 6249 VHF Survival Craft are accessed and set using the four soft keys to the left of the display. The current function of a soft key is shown in the display next to the soft key.

The following soft-key functions are available from top-level standby:



Soft key	Function
SCAN	Scanning menu with start, stop and tag function
PHBOOK	Phone book
LOCAL	Local mode, 10 dB attenuation
SETUP	Setup pages for <i>Radio setup</i> , <i>Channel setup</i> , <i>Power Supply</i> , <i>System setup</i> and <i>Controller setup</i> .

## Changing the display light, night view

Red text on black background is available for optimal night vision.

To **dim the display backlight**, e.g. to give comfortable night vision, press, hold and turn the selector knob anti-clockwise. The display shows a brightness bar. At the brightness value 45 the display changes to **night view** with red text on black background.

To return to day vision press, hold and turn the selector knob clockwise until the display changes and it reaches the desired brightness.

The radio has two colour themes: Black text on a white background (default) or white text on black background. To change the **color theme** see *System setup* on page 22.



*Alternative colour scheme*

## Adjusting the squelch level

With the Squelch control you can manually adjust and suppress noise in order to optimize the quality of the received radio communication.



When hearing noise or an unwanted signal, turn the squelch button clockwise until the speaker is muted.



# VHF radio communication

## Basic VHF operation

You can make VHF calls using the speaker device.

**Note** A single, short press on the **16/C** key always brings you to **channel 16**, the international calling and distress channel, no matter what state the radio is in.



## Quick guide to radio telephone calls

1. Press the **PTT** button on the speaker device. When the **TX** indicator lights up in the display, the transmission is active.
2. To enable reception of a radio signal release the **PTT** button.



**Note** Press **PTT** only when you are talking. Always say “Over.” just before releasing the PTT button.

One transmission is limited to **5 minutes** duration.

## Receiving a radio telephone call on channel 16

When you hear your call name in the loudspeaker, proceed as follows:

1. The symbol **RX** shows that the radio is receiving on the channel displayed.
2. Lift the speaker device.
3. Press the **PTT** button. The symbol **TX** shows that the radio is transmitting on the channel displayed.
4. Repeat the name of the station calling you and say: “This is [your ship’s name]”.
5. Suggest a working channel other than 16 by saying: “Channel [suggested channel number]”.
6. Say: “Over.” and release the **PTT** button to allow the caller to confirm the suggested new channel.

7. Switch to the new channel using the keypad or by turning the selector knob to the agreed channel and begin your conversation. Press **PTT** only when you are talking.

### **Making a radio telephone call on channel 16**

To make a radio telephone call, proceed as follows:

1. Select channel 16.
2. Lift the speaker device.
3. Press the **PTT** button. The symbol **TX** shows that the VHF radio is transmitting on the working channel displayed.
4. Say the name of the station you are calling three times.
5. Say: "This is [your ship's name]".
6. Say: "Over." and release the **PTT** button to listen. The symbol **RX** shows that the radio is receiving on the working channel displayed
7. When answered, agree upon a working channel other than 16.
8. Switch to the new channel by entering the channel number to the agreed channel and begin your conversation.

## VHF channels

You can change channels whenever the channel designator is displayed. Enter the channel using the keypad or turn the selector knob to browse through all channels that are available in the selected channel table. Only valid channel numbers are accepted. When browsing channels they appear in the display in the following order:

- Primary channels
- Private channels (if any)

With a long press on the **16/C** key the radio changes to the call channel (channel 16 for the channel table INT, if no other channel is programmed in *Channel setup* on page 21).



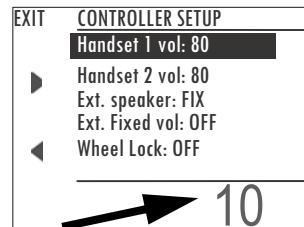
VHF channel table	Description
Primary channels (no prefix)	For details see <i>Maritime channels</i> on page 35.
Private (PRIV)	Up to 100 user-defined private channels.

For more information on how to setup channels setup see *Channel setup* on page 21. Contact your local dealer if you are interested in having private channels.

## Channel information always available in the display

For some functions and for setup pages, the channel and radio information has moved to the bottom section of the display. You can change channels whenever the channel designator is displayed.

The channel number displayed in this section always reflects the communication channel on which the radio is tuned into for communication. If **PTT** is pressed the radio transmits on the displayed channel. If a signal is received, it is received on the displayed channel.



(Example)

## Reduced transmission power LO

Press the key **1W** to toggle the transmit power between low (1 W, **LO** is displayed) and high (25 W).

A circular icon containing the text "1W".

## Local mode, 10 dB attenuation

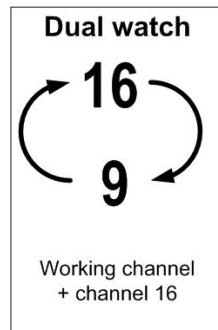
Press the soft key **LOCAL** to add 10 dB attenuation.

**Note**

Local mode is automatically exited when selecting channel 16 by pressing **16/C** button. If you want to use attenuation on channel 16 or a call channel, you must set it manually each time.

## Watch

The SAILOR 6249 VHF Survival Craft radio has a dual watch function. The working channel and channel 16 can be watched. You can select the working channel in any watch mode by turning the selector knob. If there is a signal in one of the watched channels, the display shows the channel in which the signal is received.



**To start the watch function** press the key **DW**.

The radio enters the watch mode and the text **WATCH** with the channel numbers watched is shown below the current channel number.

A circular icon containing the text "DW" above "Del".

**To stop the watch function** press the key **DW** again or **PTT** on the speaking device.

## Scan

The radio has a scanning function for tagged voice channels. Any available voice channel, including weather and private channels, can be tagged and added to the scanning sequence. As default the radio scans with priority scanning of channel 16. If a signal is received while in any scanning mode, only channel 16 continues to be watched.

If there is a signal in one of the scanned channels, the display shows the channel in which the signal is received. If PTT is pressed while scanning, the scanning stops, the radio is tuned into the displayed channel and transmission starts immediately on the displayed working channel.

**To start scanning** press the soft key **SCAN**. The SCAN menu is shown. Press **START** to start scanning. To leave the SCAN menu, but not the scanning procedure, press **EXIT**.

**To stop scanning** press **STOP**, **QUIT** if not in the SCAN menu, or press **PTT** on the speaking device.

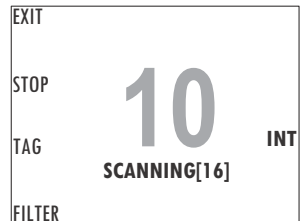
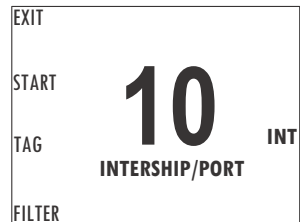
**To tag a channel for scanning** turn the selector knob until the wanted channel is in the display. Then press the soft key **TAG**. The display shows the channel number and the word **TAG** at the right side of the display.

**To remove a channel from the scanning sequence** turn the selector knob until the tagged channel is displayed. Then press the soft key **TAG** to remove the tag.

To see only tagged channels press the soft key **FILTER** and turn the selector knob. Press the soft key **FILTER** to leave the FILTER function. For details how to set up the scanning function see *Radio setup* on page 19.

### Note

The displayed working channel is temporarily included in the scanning list (although no TAG icon is shown).



## Phone book

You can enter up to 200 contacts. A contact has the following details:

- Name (up to 12 characters)
- Type (SHIP, GROUP or COAST STATION)
- Channel

The phone book is always sorted alphabetically by contact names. Use the soft key **FILTER** to toggle between CONTACTS - ALL, COAST, SHIP or GROUP.

Use the phone book to switch to the preferred channel for a particular contact. Select the contact to display details and select **USE**. The channel is selected and the phone book closes automatically.

## Adding a contact to the phone book

To add a contact to the phone book do as follows:

1. Press the soft key **PHBOOK**.
2. Press the soft key **ADD** and fill in the details for the new contact.

Contact	Description
NAME	Enter the name by turning the selector knob to the desired letter, press the selector knob to accept the letter and advance to the next letter. To finish press the soft key <b>OK</b> . It is also possible to use the keypad to enter the name.
TYPE	Press and turn the selector knob to select SHIP, GROUP or COAST STATION.
Ch (optional)	Press and turn the selector knob to select the preferred channel for this contact, press the soft key <b>OK</b> . It is also possible to use the keypad to enter a channel.

3. Press the soft key **SAVE** to save the contact information.
4. Press the soft key **EXIT** to leave the phone book.

## Editing a contact

1. Press the soft key **PHBOOK**.
2. Select the contact.
3. Press and turn the selector knob to browse through the details of the contact and continue as described in *Adding a contact to the phone book* from step 2 onwards.

## Deleting a contact

1. Press the soft key **PHBOOK**.
2. Turn the selector knob to browse to the contact you want to delete.
3. Press the soft key **DELETE**.
4. Press **EXIT** to leave the phone book and return to VHF operation.

## Replay function

Replay allows the operator to playback received voice messages in the loudspeaker. Recording is activated automatically when a signal is received. Recording is not possible during playback. Up to 60 tracks or 240 seconds can be handled. During a power cycle the recorded tracks are deleted.

The recorded channel is displayed. The message length is shown in seconds. The display shows how old the message is. If the 240 s storage limit is reached, the oldest data is overwritten.

### Replaying recorded messages


Press the Replay button (short press). The latest message (message) is repeated. Information about this message is shown in the display.



**To stop replaying** the message press the soft key **STOP**.

**To rewind** through the recorded messages make a long press on the Replay button.

**To stop replaying** a message press **STOP** or the PTT button on the speaking device.

If a signal is received while in replay mode the display shows  in the display.

## Setup

The following setup pages are described in this section of the manual:

- *Radio setup*
- *Channel setup*
- *Power Supply*
- *System setup*
- *Controller setup*



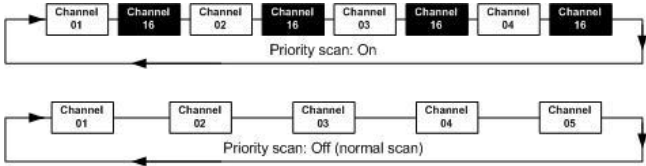
## Accessing a setup page

To change a setting in one of the **SETUP** pages, do as follows

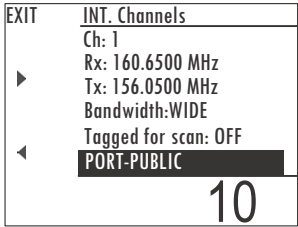
1. Press the soft key **SETUP**.
2. Press the arrow soft key ► or ◀ to advance to **SETUP** page you want to edit.
3. Turn the selector knob to go to a setting, then press the selector knob to change the setting.
4. Press **EXIT** to return to normal radio operation.

## Radio setup

Parameter	Description
<b>Scan Hang Time</b>	<p>Scan hang time, in seconds on an active receiving working channel. The time is measured from the signal is detected. The radio remains on the channel for the set time interval, if a signal was detected.</p> <p><b>OFF:</b> Resumes scanning when signal disappears (default)  <b>4, 6, 8, 10:</b> Hang time in seconds.</p>
<b>Scan Resume</b>	<p>Scan resume time, in seconds. When the programmed time of inactivity has elapsed, and when watch/scan has been aborted using a press on PTT, or after power-up, scan or watch is resumed.</p> <p><b>OFF:</b> Automatic resume is deactivated (default)  <b>3, 6, 10, 15, 20, 25, 30:</b> Resume time in seconds.</p>

Parameter	Description
<b>Priority Scan</b>	<p><b>ON:</b> All channels tagged for scanning are scanned while monitoring channel 16. (default).</p> <p><b>OFF:</b> Only the channels tagged for scanning are scanned in sequence, not channel 16, unless it is tagged for scanning.</p> 

## Channel setup

Parameter	Description
<b>Call Channel</b>	Select the channel you want to use as a programmed call channel. This channel is used as one channel in triple watch and when you make a long press on the <b>16/C</b> button.
<b>INT. Channels</b>	<p>You can view the channel settings. Press the soft key <b>▶</b> to advance the channel numbers.</p> <p>Bandwidth: <b>WIDE</b> (default) or <b>NARROW</b></p> <p>Tagged for scan: <b>OFF</b> (default) or <b>ON</b></p> <p>Edit the service line text by pressing the selector wheel and enter new name by wheel or keypad.</p> <p>For customizing, contact your authorized dealer. Press the soft key <b>EXIT</b> to return to <b>CHANNEL SETUP</b>.</p> 
<b>Private Channels</b>	As described above.

## Power Supply

Parameter	Description
<b>Monitor</b>	Set this to <b>ENABLED</b> if the radio is connected to a SAILOR 6081 Power Supply and Charger. Set this to <b>DISABLED</b> for any other power supply.
<b>Status</b>	Visible if ENABLED. Current status of the connected power supply.
<b>Voltage</b>	Visible if ENABLED. Current voltage.
<b>Current</b>	Visible if ENABLED. Current current.

## System setup

SYSTEM SETUP	Description
<b>System time &amp; Date</b>	View and set system time and date
<b>Inactivity timeout</b>	Inactivity time-out to exit functions (e.g. in setup) and return to the application. Range: 1 to 30 minutes, in 1 minute steps Default: 10 min.
<b>Language</b>	English
<b>Theme</b>	Changes the display colour. <b>BlackOnWhite</b> (default) <b>WhiteOnBlack</b>
<b>Factory Defaults</b>	Resets the radio to factory defaults. Press the selector knob and confirm the reset to factory default.
<b>Radio Info:</b>	<b>SW Version:</b> Software version of the radio <b>S/N:</b> Serial number of the radio <b>IP:</b> IP address of the radio
<b>Password</b>	Not used.

## Controller setup

Each of the controlling devices connected and powered has its own setting. The available settings may vary from controllers applied.

Controlling device	Description
<b>Handset 1 vol:</b>	Adjust earpiece volume for handset 1: ON, can be adjusted from OFF to 100, in steps of 5.  <b>Note:</b> The handset connected to the front connector has top priority and is configured to ON.
<b>Handset 2 vol:</b>	Adjust earpiece volume for handset 2: ON, can be adjusted from OFF to 100, in steps of 5.

Controlling device	Description
<b>Ext. speaker</b>	<b>FIX:</b> Fixed level is set for external speaker <b>REL:</b> Relative level following volume adjustment of the internal speaker
<b>Ext. fixed vol:</b>	External speaker fixed volume: <b>OFF</b> , 5 to 100 in steps of 5
<b>Wheel lock:</b>	You can set a time interval after which the SQ, volume and selector knobs are locked and protected against unintentional use. Then a lock symbol is shown in the display. Press any key to unlock the knobs. <b>OFF</b> , 10s, 20s, 30s, 40s, 50s, 60s

## Top-level standby soft-key functions and setup pages

Top-level standby	
SCAN	EXIT START TAG FILTER
LOCAL	
PHBOOK	EXIT ADD FILTER DEL
SETUP	EXIT ▶ ◀

<b>Setup pages</b>	
RADIO SETUP	Scan Hang Time Scan Resume Priority Scan
CHANNEL SETUP	Call Channel Int. Channels Private Channels
POWER SUPPLY	Monitor
SYSTEM SETUP	System time & date Inactivity timeout Language Theme  Factory Defaults Password Radio Info
CONTROLLER SETUP	Handset 1 vol: Handset 2 vol: Ext. Speaker Ext. fixed vol: Wheel lock

# Service & maintenance

## Contact for support

Contact your authorized dealer for technical service and support of the VHF radio. Before contacting your authorized dealer you can go through the troubleshooting guide to solve some of the most common operational problems.

## Maintenance

### Preventive maintenance

Maintenance of the SAILOR 6249 VHF Survival Craft can be reduced to a maintenance check at each visit of the service staff. Inspect the radio for mechanical damages, salt deposits, corrosion and any foreign material. Due to its robust construction and ruggedness the radio has a long lifetime. Anyway it must carefully be checked at intervals not longer than 12 months - dependent on the current working conditions.

### Salt deposits

In case the equipment has been exposed to sea water there is a risk of salt crystallization on the keys and knobs and they may become inoperable. Clean the VHF radio and speaker microphones with fresh water.

### Error messages and warnings

Errors and warning messages are shown in the display and are read-only.

## Troubleshooting guide

Action	Symptom	Remedy
The radio will not turn on	The display is empty.	Check if power is present. Check fuse which is placed in the power connector. Check performance of power supply if connected to one.
No communication	The loudspeaker is mute.	Check the antenna installation. Check antenna cable. Check Handmicrophone and cable.
Device failure		If any of the checks and tests described in this section do not assist in resolving the difficulties experienced in the operation and/or performance of the VHF installation, a fault may have developed in the VHF radio itself.  When contacting an authorized Thrane & Thrane representative be sure to provide as much information as possible describing the observed behavior - also including the type of the VHF radio, its serial number, and software release version (both found in the setup menu Controller Setup).
<b>WARNING: POWER SUPPLY LOST CONTACT</b>	Power supply status cannot be monitored.	In Setup, Power Supply, set Monitor to disabled.  You can only monitor the power supply if the radio is powered by a SAILOR 6081 Power Supply Unit and Charger.



Action	Symptom	Remedy
System Time & Date	Manually entered time & date is overridden	<p>If valid time information is received via NMEA LWE on LAN port, this time source is used to set the system time. If this is not wanted, disconnect LAN cable. Position NMEA sentences from the talkers GP, GL GN (and GA) are prioritized.</p> <p>Position source is selected by the quality indicator:</p> <ol style="list-style-type: none"> <li>1. Differential</li> <li>2. Precise, Autonomomous, Float_RTK, Realtime_RTK</li> <li>3. Estimated and Manuel</li> <li>4. Unknown (for instance if not supported in sentence)</li> <li>5. Simulated and Invalid</li> </ol> <p>The device will automatically switch to the position source with the highest priority available after 5 seconds when switching to a lower priority input and 30 seconds when switching to a detected higher priority input.</p>

## Replacing the fuse in the power connector

One fuse is installed in the power connector. If the fuse is blown, do as follows:

1. Track down why the fuse was blown and solve the problem.
2. Take out the old fuse.
3. Insert the new fuse. The fuse rating is 10 A T.

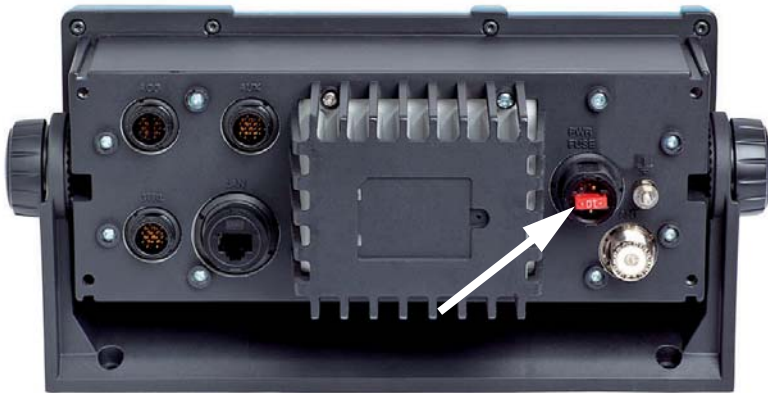


Figure 2: Replacing the fuse in the power connector

## Replacing the fuse in the SAILOR 6090 Power Converter

One fuse is installed in the SAILOR 6090 Power Converter. If the fuse is blown, do as follows:

1. Track down why the fuse was blown and solve the problem.
2. Take out the old fuse.
3. Insert the new fuse. The fuse rating is 10 A T.



Figure 3: Replacing the fuse in the Power Converter

## Warranty and returning units for repair

Should your Cobham SATCOM product fail, please contact your dealer or installer, or the nearest Cobham SATCOM partner. You will find the partner details on [www.cobham.com/satcom/service-and-support/cobham-satcom-service-and-support](http://www.cobham.com/satcom/service-and-support/cobham-satcom-service-and-support) where you also find the Cobham SATCOM Self Service Center web-portal, which may help you solve the problem. Your dealer, installer or Cobham SATCOM partner will assist you whether the need is user training, technical support, arranging on-site repair or sending the product for repair. Your dealer, installer or Cobham SATCOM partner will also take care of any warranty issue.

### Repacking for shipment

Should you need to send the product for repair, please read the below information before packing the product.

The shipping carton has been carefully designed to protect the SAILOR 6249 VHF Survival Craft and its accessories during shipment. This carton and its associated packing material should be used when repacking for shipment. Attach a tag indicating the type of service required, return address, part number and full serial number. Mark the carton FRAGILE to ensure careful handling.

**Note**

Correct shipment is the customer's own responsibility.

If the original shipping carton is not available, the following general instructions should be used for repacking with commercially available material.

1. Wrap the defective unit in heavy paper or plastic. Attach a tag indicating the type of service required, return address, part number and full serial number.
2. Use a strong shipping container, e.g. a double walled carton.
3. Protect the front- and rear panel with cardboard and insert a layer of shock-absorbing material between all surfaces of the equipment and the sides of the container.
4. Seal the shipping container securely.
5. Mark the shipping container FRAGILE to ensure careful handling.

Failure to do so may invalidate the warranty.

# Specifications

## Transceiver unit SAILOR 6249 VHF Survival Craft

Item	Specification
Weight SAILOR 6249 VHF Survival Craft	< 1.50 kg (3.3 lbs) approximately
Box weight SAILOR 6249 VHF Survival Craft	3.8 kg (8.4 lbs) approximately, including SAILOR 6201 Handset with cradle, 6202 Hand Microphone and wall mount cradle, SAILOR 6204 Control Speaker Microphone and Installation and user manual in box.
Dimensions	<p><b>Height:</b> Outer dimension 107 mm, hole height for flush mount 89 mm</p> <p><b>Width:</b> Outer dimension 241 mm, hole width for flush mount 227 mm</p> <p><b>Depth:</b> Outer dimension from front of knobs 132 mm, depth for flush mount 94 mm</p>
Operating temperature	-25°C to 55°C (5°F to 131°F)
Storage temperature	-30°C to 80°C (-22°F to 176°F)
Power supply	12 VDC Nominal (10,8– 15,6 VDC)
Current consumption	Max. 7 A
Current consumption at 12 VDC (no accessories connected)	RX: 0.5 A TX: 5 A
Current consumption at 12 VDC (all accessories connected)	RX: 0.7 A TX: 7 A

Item	Specification
Frequency range	TX: 156,000 MHz — 157,425 MHz, RX: 156,000 MHz — 163.425 MHz
Channel spacing	25 kHz, all international maritime channels
Number of P channels	The radio may be programmed with up to 100 private channels in all channel modes.
Modulation 25 kHz	16K0G3E
Antenna	50 Ohm antenna, 50 Ohm female SO239 for PL259 plug
Water ingress	IPx8 and IPx6 all over. For flush-mount installations a sealing gasket is included in the delivery.
<b>Transmitter</b>	
Transmit power	Hi/Lo: 25 W and 1 W
RF output power	High: 25 W +0 dB / - 1.5 dB Low: 1 W +0 dB / - 1.5 dB
RF output power, Canada	High: 21 W ±0.75 dB Low: 0.8 W ±0.75 dB
Frequency error	Below 500 Hz
Adjacent channel power	Below 75 dB
Conducted spurious emission	Below 0.25 µW
Distortion	Below 3%
S/N ratio	Better than 46 dB
<b>Receiver</b>	

Item	Specification
Sensitivity	< -119 dBm typically @ 20 dB SINAD CCITT weighted
LF power	Built-in loudspeaker: 6 W (at 5 kHz dev./1 kHz tone). External loudspeaker: 6 W / 8 Ohm
Distortion	Below 5%
S/N ratio	Better than 43 dB
Spurious emissions	Below 2 nW
Spurious response rejection	More than 74 dB
Intermodulation response	More than 73 dB
Co-channel rejection	Better than —10 dB
Adjacent channel selectivity	More than 74 dB
Blocking level	More than 94 dB $\mu$ V

## SAILOR 6090 Power Converter 24—12 V

Item	Description
Weight	300 g
Dimensions	Height: 33 mm Width: 190 mm Depth: 85 mm
Operating temperature	-25°C to 55°C (5°F to 131°F)
Storage temperature	-30°C to 80°C (-22°F to 176°F)

Appendix A: Specifications

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Item	Description
Input voltage	21—32 VDC
Output voltage	12.5 VDC
Output current (max.)	8 A



# Maritime channels

## International channels (INT)

Channels	TX MHz	RX MHz	SIMPLEX	
			Intership	Port
1	156.050	160.650		
2	156.100	160.700		
3	156.150	160.750		
4	156.200	160.800		
5	156.250	160.850		
6	156.300	156.300	●	
7	156.350	160.950		
8	156.400	156.400	●	
9	156.450	156.450	●	●
10	156.500	156.500	●	●
11	156.550	156.550	●	●
12	156.600	156.600	●	●
13	156.650	156.650	●	●
14	156.700	156.700	●	●
15	156.750	156.750	●	●
16	156.800	156.800	Distress & calling	
17	156.850	156.850	●	●
18	156.900	161.500		
19	156.950	161.550		
1019 ***)	156.950	156.950		●
2019 **)		161.550		
20	157.000	161.600		
1020 ***)	157.000	157.000		●
2020 **)		161.600		
21	157.050	161.650		
22	157.100	161.700		
23	157.150	161.750		
24	157.200	161.800		
25	157.250	161.850		
26	157.300	161.900		
27	157.350	161.950		
1027 ***)	157.350	157.350		●
28	157.400	162.000		
1028 ***)	157.400	157.400		●

Channels	TX MHz	RX MHz	SIMPLEX	
			Intership	Port
60	156.025	160.625		
61	156.075	160.675		
62	156.125	160.725		
63	156.175	160.775		
64	156.225	160.825		
65	156.275	160.875		
66	156.325	160.925		
67	156.375	156.375	●	
68	156.425	156.425		●
69	156.475	156.475		●
70	156.525	156.525	DSC	DSC
71	156.575	156.575		●
72	156.625	156.625	●	
73	156.675	156.675	●	●
74	156.725	156.725		●
75	156.775	156.775		● L)
76	156.825	156.825		● L)
77	156.875	156.875	●	
78	156.925	161.525		
1078 ***)	156.925	156.925		●
2078 **)		161.525		
79	156.975	161.575		
1079 ***)	156.975	156.975		●
2079 **)		161.575		
80	157.025	161.625		
81	157.075	161.675		
82	157.125	161.725		
83	157.175	161.775		
84	157.225	161.825		
85	157.275	161.875		
86	157.325	161.925		
87	157.375	157.375		● *)
88	157.425	157.425		● *)

L) 1 W TX power

\*) Channel 87 and 88 became simplex channels following the introduction of AIS1 at 161.975 MHz and AIS2 on 162.025 MHz.

\*\*) According to Radio Regulations Final Acts WRC-15 Appendix 18 these channels are repurposed and must be default disabled as of January 1st 2017.

\*\*\*) According to Radio Regulations Final Acts WRC-15 Appendix 18 these channels must be default enabled as of January 1st 2017.

## Private channels

Up to 100 licensed private channels may be specified. For programming the private channels contact your local dealer.



## A

**AIS** Automatic Identification System, a short range coastal tracking system used on ships and by Vessel Traffic Services for identifying and locating vessels by electronically exchanging data with other nearby ships.

## G

**GPL** General Public License

## L

**LAN** Local Area Network

**LGPL** Lesser General Public License

**LWE** Light Weight Ethernet

## P

**PTT** Push To Talk

## T

**TU** Transceiver Unit

## V

**VDR** Voyage Data Recorder, a data recording system designed for all vessels required to comply with the IMO's International Convention SOLAS Requirements in order to collect data from various sensors on board the vessel.

**VHF** Very High Frequency



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