

A RELIABLE CLASSIC WITH REVOLUTIONARY FEATURES





Developed in cooperation with users

There is only one way to design a VHF that really meets the requirements of demanding users. That is, to develop the VHF in cooperation with them. Therefore, a dedicated team of experienced engineers, as well as teams of Man/Machine-Interface specialists, worked alongside users for the entire development process of the SAILOR RT5022/RT5020 VHF. All ideas and input gathered from all over the world were then carefully evaluated and used in the development of the SAILOR RT5022/RT5020 VHF. Finally the prototypes were tested by users in on-board installations to their full satisfaction.

Innovating the user-friendly communication tool

The SAILOR RT5022/RT5020 VHF is a highly reliable and user-friendly VHF, not only for everyday communication, but also for critical situations where lives may depend on it. Combining these important qualities with Thrane & Thrane's advanced technologies the result is a state-of-the-art VHF containing revolutionary features and functionalities.

As a world first, the SAILOR RT5022/RT5020 VHF features the Replay function for improved communication and safety at sea. Push the Replay button and the SAILOR RT5022/RT5020 VHF will replay the important messages you may just have missed.

The aim of developing the SAILOR RT5022/RT5020 VHF was to make a durable and powerful tool. Therefore much effort went into creating user-friendly menus and buttons, optimal displays, good audio, a carefully designed handset that fits perfectly in your hand, as well as easy and flexible installation. The display has been thought over like never before, resulting in separate menus, one for the most used standard VHF functionalities and one for the DSC functions. The design and positioning of the buttons have been well planned with large tactile buttons for main functions and tactile knobs for volume and squelch.

All functionalities fulfil the obligation to provide easy and intuitive operation while retaining the basic SAILOR merits; durable, reliable high-quality VHF's created for rough conditions at sea, combined with new technologies and inventions.

COMMUNICATION BUILT ON 50 YEARS OF EXPERIENCE

True to the long tradition and reputation of SAILOR VHF's, Thrane & Thrane provides cutting edge maritime radio communication with the uniquely reliable RT5022 and RT5020 VHF DSCs. RT5020 even offers full duplex communication and is thus a manifestation of Thrane & Thrane taking the highly acclaimed SAILOR brand further to the top. Both products fulfil and even exceed GMDSS requirements and are among the wisest of choices for any professional seaman.

REPLAY FUNCTION

The bridge can be a very busy place, which means that sometimes important messages are missed. The SAILOR RT5022/RT5020 VHF records the latest 90 seconds of incoming communication on the channel to which it is set. If, for some reason, a message has been missed or not heard properly, simply push the Replay button and listen to it again. If you are away from the bridge, you can easily check if there were any calls during your absence. No VHF has ever offered this function.



EVERY DETAIL COUNTS

Powerful built-in loudspeaker with excellent sound.

Separate displays for simplified use:

- One display for standard VHF functionalities.
- One for DSC/setting functions.

Large 7-segment display for standard VHF functionalities, readable from even very wide angles. Bars and numbers lit in red along with a dimming function ensure that night vision is not disturbed.

Separate menus for standard VHF and DSC/settings. Intuitive and easy to use.

Quick menu selection.

Large and easy to activate distress button. Well protected against unintentional activation.

Large tactile buttons for easy operation of the VHF.

High-quality microphone in noise reduction design.

Ergonomic and ruggedized handset.

Marine AR anti-reflection filter.

Graphical display for DSC and setting functions. Automatic sleep mode function when not in use to reduce night vision disturbance.

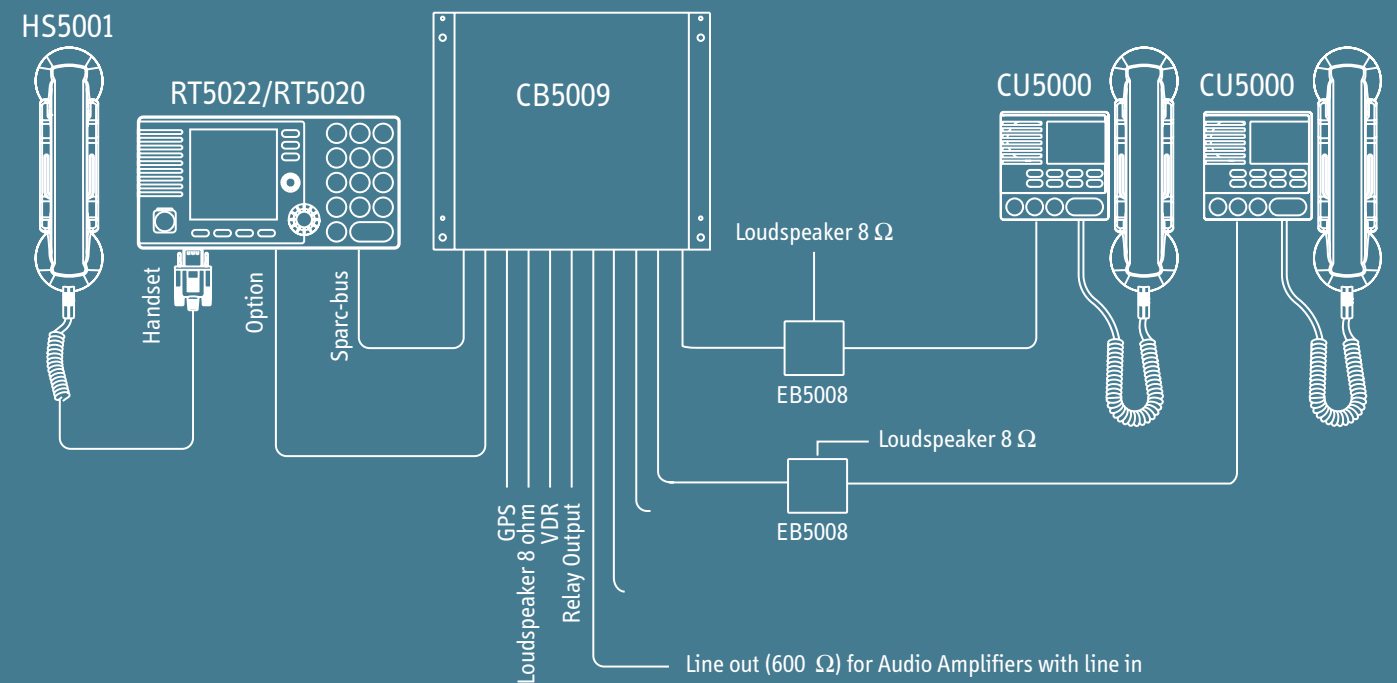
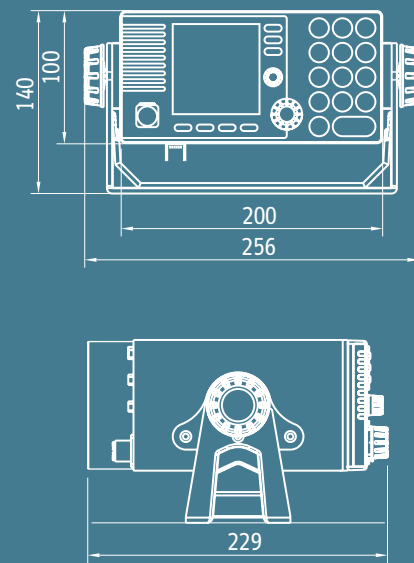
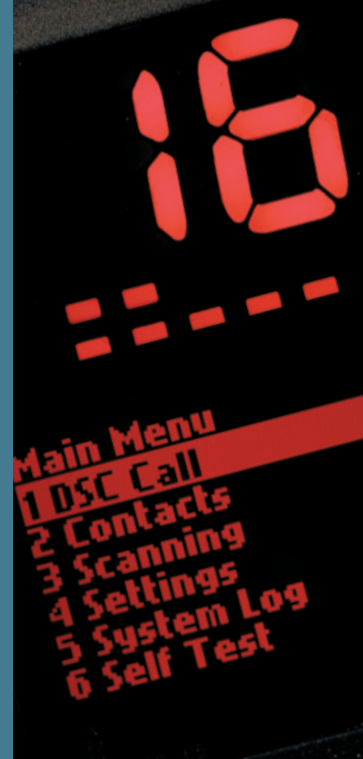
Tactile knobs for volume and squelch.

Replay function. The latest 90 seconds of incoming messages are constantly recorded and can be replayed by pushing the Replay button.



Two displays, separate menus

On the SAILOR RT5022/RT5020 VHF, the VHF operations and DSC functionalities have been split into two separate displays and menus, making it easy to quickly overview the settings of the VHF. Standard VHF functionalities are shown on a large 7-segment display, which is not subject to the bright background light usually inherent to LCD displays. The 7-segment display is clearly readable at a distance and from very wide angles. All text and indicators are in red, so as not to disturb night vision. DSC functions and less used settings are shown on a graphical LCD display, which can reset to sleep mode when DSC or settings are not being used. Reflections from bright light or sunshine have also been significantly reduced with an anti-reflection filter.



SAILOR RT5022/RT5020 VHF DSC BASIC CONFIGURATION

Transceiver: SAILOR RT5022/RT5020

The SAILOR RT5022/RT5020 includes a very powerful transmitter, as well as a very sensitive, selective receiver, which reduces blocking and intermodulation from other VHF or AIS products installed. The integrated DSC functionality has been designed for ease of use. The built-in loudspeaker is both powerful and provides very clear sound quality. The SAILOR RT5022/RT5020 can be fitted to any bridge, flush mounted or in a bracket. Installation is facilitated through a built-in switch mode power supply.

Handset: SAILOR HS5001

The SAILOR HS5001 Handset fits perfectly in your hand and has high sound quality. The design reduces wind noise in the microphone and the speaker unit covers the ear very well, making hearing easier in a noisy environment.

Accessories: Semi-intelligent Control Unit: SAILOR CU5000

The SAILOR CU5000 has been carefully designed for use on bridge wings or other secondary operating positions. All primary VHF functions and quick muting of incoming DSC alerts can be operated from this unit. It has been tested as exposed equipment and is water resistant to IP66.

FEATURES

- Replay function (duration 90 seconds of received data)
- 7-segment display for primary functions
- Graphical display with sleep mode for secondary functions
- All text and indicators in displays are red for improved night vision
- Display with Marine AR anti-reflection filter
- Efficient dimming of displays
- Powerful built-in 5W loudspeaker
- Ergonomic handset
- Easy to use, intuitive menus with scroll function
- Quick selection function
- Menu in various languages optional
- Alarm mute button
- Large tactile buttons
- Tactile knobs for volume and squelch
- Squelch settings for individual channels
- 25 to 1 watt switch button
- Built-in DSC Class A
- Dual watch
- Scanning
- Flexible installations with bracket and/or flush mounting
- Address book: 200 DSC addresses for vessels and coast stations
- Up to two semi-intelligent control units can be connected
- Scrambler for private communication

Technical Specifications

Conforms to all relevant international requirements and resolutions as agreed by ETSI, IEC, ITU and IMO as well as other national requirements. These specifications include ETSI EN 301 925, ETSI EN 300 698-1, ETSI EN 300 338, ITU-R M.493-11, ETU-R M.541-9, IEC 61162-1 and IEC/EN 60945 (CU5000).

General

Channels	All Int., US and BI channels. Up to 30 private channels in 3 separate banks designated F, P or L. Each bank contains 10 private channels.		
Channel spacing	25 KHz / 12.5 KHz		
Operation modes	RT5022	simplex/semi-duplex	
	RT5020	simplex/duplex	
Modulation	G3E/N for Telephony G2B for DSC		
Aerial connectors	Standard 50Ω female S0239		
Temperature range	-15°C to +55°C		
Supply voltage	12V to 24V DC nominal		
Supply voltage range	10.8V to 31.2V DC		
Frequency range	RT5022	Rx/Tx	149.300 – 163.750 MHz
	RT5020	Rx/Tx	150.800 – 157.425 MHz
		Rx	160.625 – 163.600 MHz
Frequency stability	Better than ± 3 ppm		

Receiver

Sensitivity for 20 dB	RT5022	-121 dBm typical
SINAD CCITT weighted	RT5020	-119 dBm typical.
AF rated Power Internal L.S.	5W	
Output for External L.S.	5W (8 Ω)	
Distortion	Less than 5%	
S/N ratio	Better than 43 dB	
Spurious emission	Less than 0.25 mW	
Spurious response rejection	Better than 74 dB	
Intermodulation response	Better than 73 dB	
Co- channel rejection	Better than -10 dB	
Adjacent channel selectivity	Better than 74 dB	
Blocking level	Better than 99 dBμV	
Duplex spurious response att.	RT5020 better than 74 dB	
Duplex desensitization	RT5020 below 3 dB	

Transmitter

RF output power	High: 25W +0 dB / -0.5 dB
	Low: 0.85W +0.5 dB / -1 dB
Adjacent channel power	Better than 75 dB
Conducted spurious emission	RT5022 better than 0.1 uW
	RT5020 better than 0.25 uW
Distortion	RT5022 better than 5%
	RT5020 better than 3%
S/N ratio	Better than 46 dB

DSC facilities

DSC operation	According to Rec. ITU-R M.541-9 and Rec. ITU-R M.689-2	
DSC protocol	According to Rec. ITU-R M.493-11 Class A	
Navigator interface	According to IEC 61162-1 GLL, RMC, ZDA, GGA, VTG, GNS	
Symbol error rate	Better than 1*10 ⁻² @ -121 dBm or 0.20 μV p.d.	
Modulation	1700 Hz ± 400 Hz	
	1200 baud	
Frequency error	Better than ± 1 Hz	
Residual modulation	Better than -26 dB	

Dimensions

Transceiver dimensions	Height: 100 mm (3.94")
	Width: 200 mm (7.87")
	Depth: 210 mm (8.27")
(H and W same as RT4822/RT4722 and SKANTI VHF 1000/1100)	
Transceiver weight	RT5022 4.1 Kg (7.9 lbs)
	RT5020 4.9 Kg (10.8 lbs)

WORLD RENOWNED MARITIME COMMUNICATION FOR MORE THAN 50 YEARS

Thrane & Thrane is the world's leading manufacturer of global mobile satellite and radio communication. We develop and market satellite and radio communication equipment for use at sea, on land and in the air.

The combination of new technologies, proud traditions and our legacy in maritime communication equipment provides a unique platform for the development of reliable and technologically advanced products for seafarers all over the world. We are devoted to constant development and innovation for solutions which improve safety and daily life at sea.

Thrane & Thrane acquired the SAILOR brand in 2004 thus adding more than 50 years of legacy and experience in maritime communication to its range. Thrane & Thrane now offers a complete range of reliable, innovative and user-friendly solutions. The SAILOR products range from VHF and MF/HF to complete GMDSS solutions over Inmarsat-C, mini-C, mini-M, Fleet, Iridium and SSAS solutions.

World class service

The Thrane & Thrane maritime service network stretches around the globe. Carefully selected and trained dealers, distributors and service centres are available for instant support and service in harbours all over the world.

Regular factory training for staff as well as a range of spare parts in stock are mandatory for certified members of the Thrane & Thrane Service Network, assuring fast and qualified assistance. As time is crucial for ship management, we aim to be the reliable service partner - in any harbour, at any time. Read more about Thrane & Thrane's service setup at: www.thrane.com.