

## WORLD LEADERS

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

### Innovation without limits

Our focus on new technology and constant innovation has assured us a position as preferred development partner for Inmarsat, the leading satellite service provider. We have developed the ground infrastructure for Inmarsat's new powerful I4 satellite services, and have been fundamental in the development of the new BGAN high-speed mobile communication terminals. The same engineering passion and capability is exercised in developing all maritime communication equipment.

### 50 years of maritime tradition

In 2004 Thrane & Thrane acquired the SAILOR brand, adding more than 50 years of experience in maritime communication to our range. Thrane & Thrane now offers a complete selection of reliable, innovative and user-friendly maritime solutions that improve safety and daily life at sea.

Our 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 worldwide

When buying Thrane & Thrane you not only buy state-of-the-art technology but peace of mind. We are renowned for our World Class Service program. Distributors and service centres in harbours all over the world are supported by Thrane & Thrane so they in turn are able to support you in accordance with our World Class Standards.

### On Board Service Centers – certified by Thrane & Thrane


A network of On Board Service Centers – supplementary to the distributor and dealer networks – offer on board service and repair. Every measure is taken to provide efficient first-time-fix support. All On Board Service Centers have a close relationship with Thrane & Thrane. Original spare parts are kept in stock and service engineers receive intensive factory training. Heartening to know, when both business and life depend on communication.

## HIGH-END RELIABILITY FOR THE HIGH SEAS



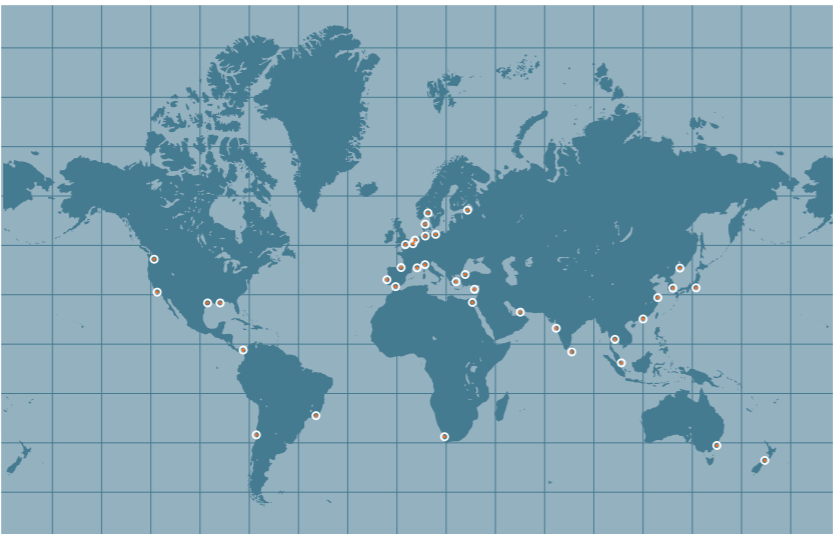
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ON BOARD SERVICE CENTER



CERTIFIED BY

Thrane & Thrane





# INTELLIGENT DESIGN SUPERIOR PERFORMANCE

## SAILOR® SYSTEM 5000 MF/HF

Based on more than 50 years of creating the world's most cutting edge communication equipment for the high seas, the SAILOR System 5000 MF/HF has been developed to meet all requirements of the end user, ensuring easy operation, while at the same time offering a cost effective, reliable and powerful system.



**The unique combination of user friendliness and reliability makes the SAILOR System 5000 MF/HF one of a kind, suitable for all types of vessels around the world - from the smallest fishing vessel to the largest merchant vessel. When ease of use and high performance are crucial to daily communication and safety, this system is an indispensable tool for the professional seaman.**

Comprising a thoroughly thought-through design, the SAILOR System 5000 MF/HF ensures great and intuitive operability within voice communication, DSC and radiotelex features. Large tactile knobs and local languages are also some of the main features developed with the user in mind. Moreover, the system offers night vision display, one touch alarm mute button and crystal clear audio at all times. Naturally, the SAILOR System 5000 MF/HF fully complies with all GMDSS safety requirements for sea area A2, A3 and A4.

### Easy to operate – with advanced features

Simple, yet sophisticated. That is the SAILOR System 5000 MF/HF. Behind the user friendly interface all features and functions are fully accessible.

The logical menus shown in the large TFT display can display more than three hundred characters at a time. All text in the display is in red in order to minimize the disturbance of the night vision. A Marine AR (anti-reflection) filter reduces the reflection from the sun and other ambient light sources. The display is designed to be easy to read even from very wide angles, enabling the operator to read the display when engaged in another operation.

The SAILOR System 5000 is available in 150W, 250W and 500W versions. It is operated from the robust and compactly designed Control Unit (CU5100) which controls the powerful Transceiver Unit (TU5150/TU5250/TU5500) and the fast Antenna Tuning Unit (ATU5215/ATU5515).

### Loud and clear

The Control Unit offers large, tactile buttons and rotary knobs that make it easy to operate even in the harsh environment at sea - both with and without gloves. The Mute Alarm button mutes not only all the alarms on the Control Unit, but also the alarms on the Alarm Panel (AP5065) if such is included in the installation.

The powerful built in loudspeaker provides high quality sound even in a noisy environment, and the ergonomic and ruggedized handset has an outstanding sound quality both in the speaker and the microphone.





# THE ROUGHEST CONDITIONS CALL FOR THE TOUGHEST EQUIPMENT

## Powerful and reliable

All features and functionalities ensure full operation under the toughest of conditions 24 hours a day. The SAILOR System 5000 MF/HF is based upon a proven technology and design that has demonstrated high reliability and durability. The 150W and 250W versions uses convectional cooling of the system, with no fans or other moving parts, and the 500W version is cooled by means of fans. The highly efficient systems ensures full power and dependable communication on all channels.

## Safety at sea

For Thrane & Thrane safety at sea is paramount in the design of new equipment, so naturally the SAILOR System 5000 is in compliance with all international resolutions. More than 1/3 of commercial

vessels covered by international conventions have already chosen Thrane & Thrane's SAILOR products because of their high quality and levels of service. With solutions available for all seafaring vessels, from large commercial ships to small fishing boats, the SAILOR System 5000 MF/HF series offers reliable communication equipment that ensures optimal safety at sea for everyone.

## The strongest technology on the market

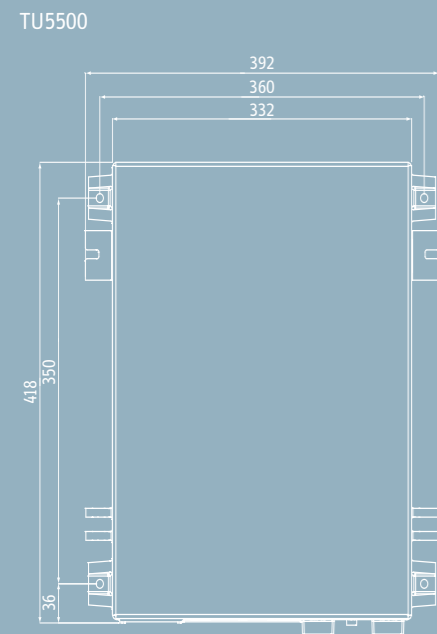
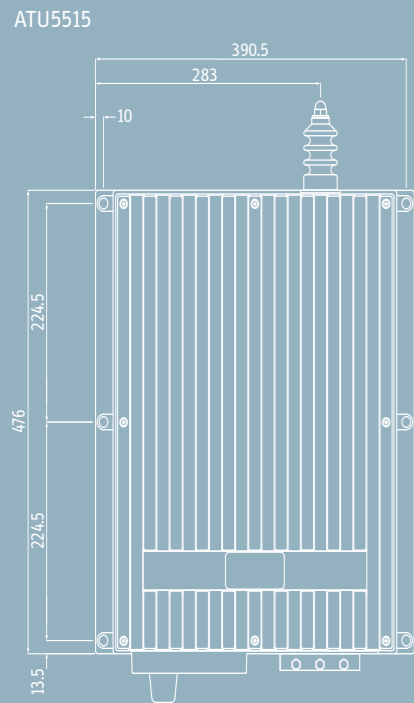
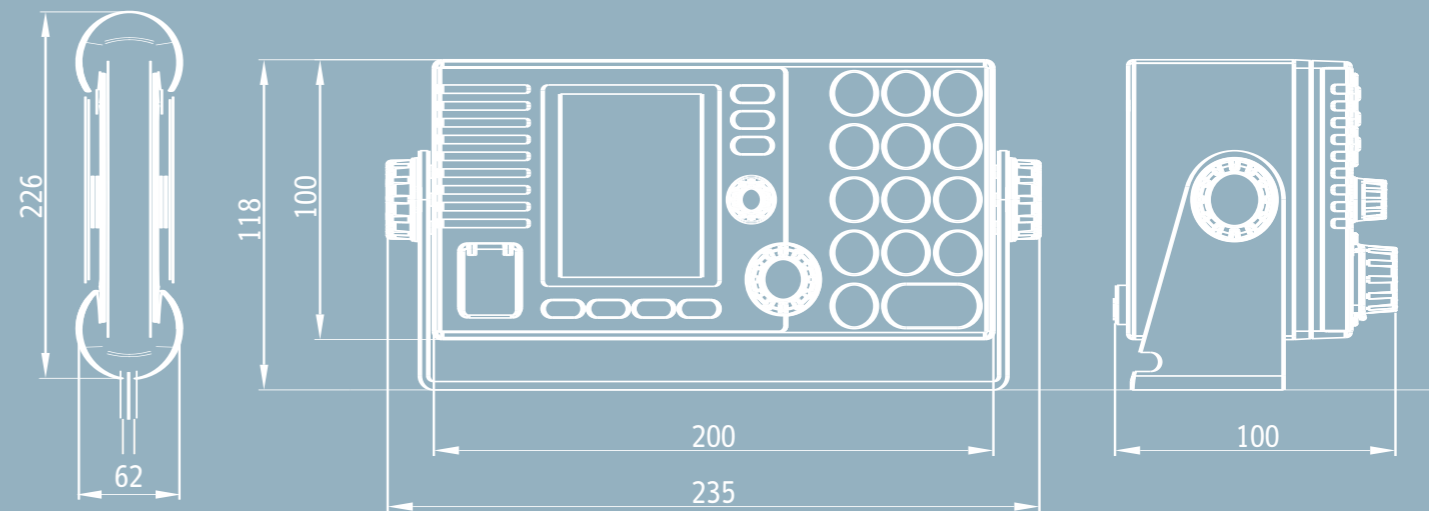
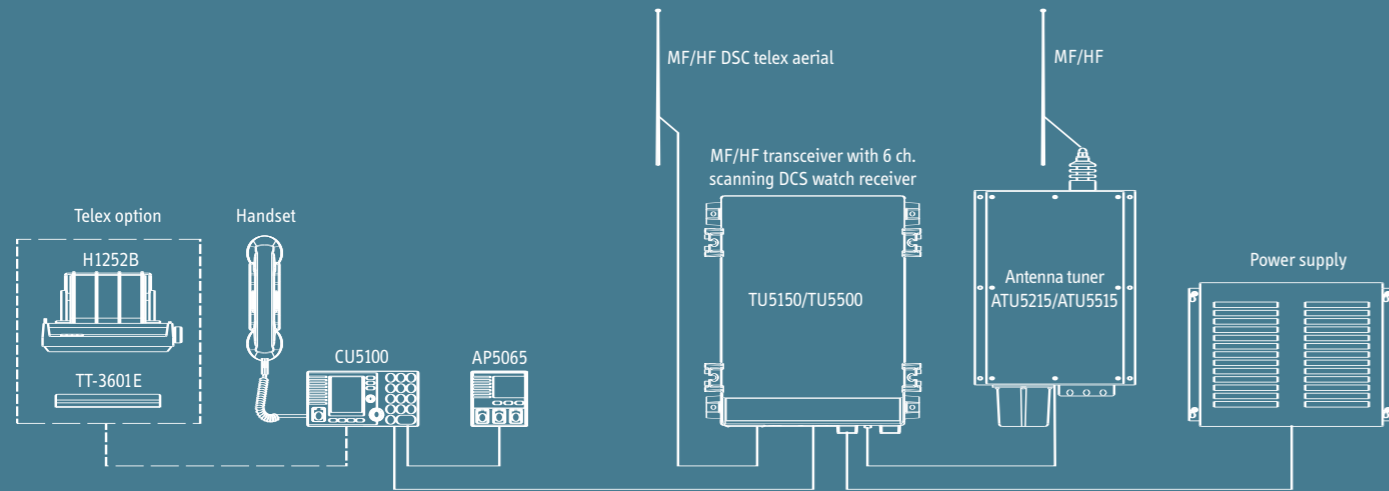
The SAILOR System 5000 MF/HF marks yet another chapter in the Thrane & Thrane serial of always providing powerful, durable and reliable communication. During the past 50 years, Thrane & Thrane has built communication products to last and withstand even the harshest condition. And SAILOR System 5000 MF/HF system is no exception.



- **User friendly**
  - Large TFT display with red text to protect night vision
  - Large buttons and rotary knobs
  - Quick and logical menus
  - Ergonomic and ruggedized handset
  - One touch alarm mute button
  - Marine AR (anti-reflection) filter
- **Powerful 150W, 250W and 500W versions with optional radiotelex**
- **Highly cost-effective and reliable**
- **1 – 6 (optional) channels DSC watch receiver built-in**
- **Fast antenna tuning**
- **Flexible and easy installations**
- **Complies with GMDSS for both sea area A2, A3 & A4**
- **Complies with ITU 493-11 annex 3 & 4 for simple DSC operation and automated procedures**







## ADVANCED TECHNOLOGY MADE SIMPLE

### Flexible solutions

The three unit SAILOR System 5000 MF/HF offers truly flexible installations. The system is available as versions with 1 channel DSC watch receiver D1, in which a D6 channel watch receiver can be enabled, with no hardware changes needed. Likewise radiotelex can easily be enabled and installed.

The compact Control Unit (CU5100), with the built-in loudspeaker, requires a minimum of space and can be installed up to 100 meters from the transceiver units. The highly efficient Antenna Tuners (ATU5215/ATU5515) is designed for outdoor installations and can be installed up to another 100 meter away from the Transceiver Unit.

The Control Unit (CU5100) is identical for both the 150W, 250W and 500W systems. Even the Antenna Tuner (ATU5215) is identical for both the 150W and 250W systems, whereas the Antenna Tuner is different for the 500W system. The Transceiver Units are all build on the same principle even though they are three different products.

### Technical Data 150W, 250W and 500W

#### GENERAL

Operating Modes:	Simplex and semi-duplex SSB telephony and DSC, TELEX AM broadcast reception													
Frequency range:	150 kHz to 30 MHz (Rx) 1605 kHz to 30 MHz (Tx)													
Output power:	<b>150W</b> PEP ±1.4 dB into 50Ω at 24V DC supply voltage voice <b>250W</b> PEP ±1.4 dB into 50Ω at 24V DC supply voltage voice													
Supply voltage:	Nominal 24V DC floating With optional external AC power supply: 115/230V AC 50/60 Hz. Automatic change-over to DC in the absence of AC supply													
Power consumption:	<table border="1"> <tr> <td></td> <td><b>150W:</b></td> <td><b>250W:</b></td> </tr> <tr> <td>Tx, SSB speech:</td> <td>175W</td> <td>300W</td> </tr> <tr> <td>Tx, SSB two-tone:</td> <td>300W</td> <td>550W</td> </tr> <tr> <td>Tx, DSC/TELEX:</td> <td>420W</td> <td>600W</td> </tr> </table> Complies with ETSI 300-373 or better.			<b>150W:</b>	<b>250W:</b>	Tx, SSB speech:	175W	300W	Tx, SSB two-tone:	300W	550W	Tx, DSC/TELEX:	420W	600W
	<b>150W:</b>	<b>250W:</b>												
Tx, SSB speech:	175W	300W												
Tx, SSB two-tone:	300W	550W												
Tx, DSC/TELEX:	420W	600W												
Operating temperature range:	-20°C to +50°C													
User-programmable channels:	199 frequency pairs with mode (1-199)													
User-programmable stations:	40 stations with name, MMSI and station channel													

#### RECEIVER

Frequency range:	150 kHz to 30 MHz
Aerial impedance:	50Ω automatically matched by the aerial tuning unit
Sensitivity:	Aerial input for 10 dB SINAD, 50Ω aerial: SSB tel.: 0.7 μV AM tel.: 4 μV DSC/Telex: 0.7 μV Complies with ETSI 300-373 or better.
Audio output power:	4W with less than 10% distortion

#### TRANSMITTER

Output power:	<b>150W</b> PEP +/-1.4 dB. voice. Reduction to 80W when continuously keyed single tone, with duty cycle greater than 55% during 1 min. Automatic power recovery after 1 min.  <b>250W</b> PEP +/-1.4 dB. voice. Reduction to 100W when continuously keyed single tone, with duty cycle greater than 55% during 1 min. Automatic power recovery after 1 min.  <b>500W</b> 1.6 to 3.999 MHz 400W PEP +0/-1.4 dB. voice. 4.0 to 29.999 MHz 500W PEP +/- 1.4 dB. voice. 3 dB reduction when continuously keyed single tone, with duty cycle greater than 55% during 1 min. Automatic power recovery after 1 min.
Power reduction:	Low approx.: 10W
Frequency range:	ITU marine bands from 1605 kHz to 30 MHz

#### DSC-TELEX MODEM

DSC Equipment class:	Class A	
Protocols:	DSC:	ITU-R M. 493.12, M. 541-6, and M. 1082.
	Telex:	ITU-R M. 625-2 (incl. M. 476-4), M. 490, M. 491-1, and 492-5 NBDDP telex in ARQ, FEC and SEL FEC modes
Ship's identity:	DSC:	9-digit identity number
	Telex:	5- and/or 9-digit identity numbers
Interfaces:	Alarm:	DSC distress alarm interface
	NMEA:	NMEA 0183 interface for GPS equipment
	COM:	PC interface for SCANCOMM telex control. RS-232, baud rate 9600 bps
	RCI:	Remote transceiver control interface for control of frequency, mode and power level. T+Bus protocol, baud rate 2400 bps
	Line, Key:	Transceiver AF line input/output and external key interface. -10 to +10 dBm, 600Ω
	AUX alarm 2:	Telex and non-distress/urgency DSC alarm output

#### DSC WATCH RECEIVER

Frequency range:	Scanning:	2187.5 KHz, 4207.5 KHz, 6312.0 KHz, 8414.5 KHz, 12577.0 KHz, 16814.5 KHz
Aerial impedance:	50Ω Complies with ETSI 300-373 or better.	

#### AERIAL COUPLER

Frequency range:	1.6 MHz - 27.5 MHz
Aerial requirements:	8-18 m wire and/or whip aerial
Aerial tuning:	Fully automatic with no presetting
Tuning speed:	0.1 - 8 sec Typical
Power capability:	330W PEP in 50Ω

#### DIMENSIONS AND WEIGHT

Transceiver Unit:	Width: 390 mm (15.3") Height: 445 mm (17.5") Depth: 127 mm (5") Weight: 19 kg (41.9 lbs)
Antenna Tuning Unit:	Width: 290 mm (11.4") Height: 500 mm (19.7") Depth: 80 mm (3.1") Weight: 3.3 kg (7.3 lbs)
Control Unit:	Width: 200 mm (7.9") Height: 100 mm (3.9") Depth: 95 mm (3.7") (incl. cable) Weight: 1.5 kg (3.3 lbs)

Subject to change without prior notice.