

# SYSTEM 4000 GMDSS

Less is more

## SAILOR HF SSB 150W PEP Small and powerful



SAILOR System 4000 150W MF/HF is part of SAILOR's compact System 4000 solutions. It is an integrated MF/HF radio with voice and DSC built into one unit, from one of the leading and most experienced manufacturers of maritime communications equipment in the world.

- GMDSS compliant
- Ruggedized compact design
- Fully integrated control unit
- Simple and user-friendly soft-key based operation
- Intelligent menus
- Graphic LCD display
- Built-in DSC and DSC watch-keeping receiver
- Intelligent scanning for combined scanning of SSB and DSC channels
- Frequency range: 150 kHz to 30 MHz, continuous operation
- Tunes into 8 to 18-metre wire and/or whip antennas
- Prepared for connection to data modem
- Full 150 Watt PEP on all channels



# SAILOR

When safety counts

# SAILOR HF SSB 150W PEP

## Small and powerful

SAILOR has more than 50 years' experience in developing and manufacturing solutions for maritime communications. The 150W MF/HF PEP transceiver with integrated DSC (Digital Selective Calling) not only complies with the relevant GMDSS safety requirements – particularly those applying to fishing vessels – it also sets new standards for compactness, reliability, versatility and user-friendliness.

The 150W MF/HF SSB is the latest addition to the well-known System 4000 MF/HF range, whose models have been installed on board vessels throughout the world. The range now includes 150, 250 and 500 Watt transceivers that meet requirements for professional communications equipment on board vessels all over the world. The 150W MF/HF model satisfies the MF/HF requirements of GMDSS A2 installations. Built into the well-known System 4000 range of consoles, it also fulfils all other requirements for A2 installations. Combined with SAILOR Sat-C equipment, System 4000 150W MF/HF SSB complies with the requirements of MF/HF GMDSS A3 installations.

The new System 4000 150W has been specifically designed to cope with the demand for reliable communications in the tough conditions found on small boats and fishing vessels, where ease of use and high performance are crucial to daily communications and the safety of the crew. Thus, the 150W MF/HF SSB is also suitable for other types of vessels where 150 Watt output is sufficient.

### The Control Unit HC4500B

The System 4000 150W has features the level of user-friendliness for which SAILOR is famous. The Control



Unit HC4500B is used for easy operation of the system via the soft-keys and the intelligent menus presented in the highbright graphic LCD display. This facilitates both daily communications and safety-related messages. The small and ruggedized HC4500B metal cabinet requires minimum space for installation, and the separate handset and loudspeaker make installation easy and flexible. To increase the safety on board, the optional SAILOR Alarm Panel AP4365 can be installed elsewhere on board the vessel.

### The Transceiver Unit HT4610

The ruggedized HT4610 is housed in a heatsink metal cabinet where no mechanical fans are needed for cooling of the transceiver. The highly effective 150W PEP transceiver ensures 150 Watt output power on all channels.

All ITU channels are pre-programmed in the HT4610, and private channels can easily be chosen from the menu of the HC4500B. A separate receiver constantly watches on channel 2187.5 for safety-related communications, and up to 6 advanced pro-

grammable scanning programmes watch for daily communications. The flexible transceiver has a frequency range covering 150 kHz to 30 MHz, continuous operation.

SAILOR System 4000 150W MF/HF runs on 24V DC, which can be fed from the optional SAILOR PS4655 Power Supply that can be backed up by the SAILOR CH4656 Battery Charger.

The 150W MF/HF is prepared for interfacing with an external modem for cost-effective data communications, e.g. Globe Wireless.

### The Antenna Tuning Unit HA4615

The HA4615 in a polycarbonate cabinet is designed for outdoor installation and can resist the harsh environment at sea. The highly efficient antenna tuning unit provides a powerful signal that improves communications quality.

The antenna tuner can operate with 8 to 18-metre wire and/or whip antennas.

The highly sophisticated unit automatically tunes according to the antenna connected.

The compact, ruggedized design requires minimal space and the three-unit system makes installation simple. In addition, with a maximum distance of 100 m between the transceiver and the control unit and a further 100 m between the transceiver and the antenna tuner, the system is remarkably flexible.

System 4000 150W MF/HF is designed to be a long-lasting reliable communications tool – powerful and user-friendly for reliable daily communications as well as for safety.

# TECHNICAL DATA

150W MF/HF SSB radio telephone with integrated DSC facility and 2187.5 kHz DSC Watch Receiver.

Complies with the relevant IMO performance standards, the ITU Radio Regulations, the ITU-R recommendations and meets the relevant performance specifications of ETSI and IEC.

## GENERAL

Frequency stability:	0,35 ppm
Operating modes:	Simplex and semi-duplex SSB telephony and DSC, AM broadcast reception
Supply voltage:	21.6 to 31.2 V DC floating With optional external AC power supply: 115/230 V AC, 50/60 Hz Automatic change-over to DC in the absence of AC supply
Power consumption: (approx. at 24 V DC)	RX, 60 W, TX, SSB unmodulated: 100 W TX, SSB speech: 175 W TX, SSB two-tone: 300 W TX, DSC: 420 W
Operating temp. range:	-20° to +55° C
Pre-programmed ch.:	289 ITU HF telephony channels, 54 ITU MF telephony channels in Region 1, 40 ITU DSC frequency pairs
User-programmable ch.:	199 frequency pairs with mode (1-199)
User-program. stations:	40 stations with name, MMSI and station channels

## DIMENSIONS AND WEIGHT

Transceiver Unit:	Width: 390 mm. Height: 445 mm Depth: 127 mm. Weight: 19 kg
Antenna Tuning Unit:	Width: 290 mm. Height: 500 mm Depth: 80 mm. Weight: 3.3 kg
Control Unit:	Width: 200 mm Height: 100 mm Depth: 95 mm (incl. cable) Weight: 1 kg

## RECEIVER

Frequency range:	150 kHz to 30 MHz
Antenna impedance:	50 Ω. Matched by the antenna amplifier in the antenna tuning unit
Input protection:	30 V RMS (EMF)
Sensitivity:	Antenna input for 10 dB SINAD, 50 Ω antenna
SSB telephony:	0.7 μV
AM broadcast:	4 μV
DSC:	0.3 μV
Audio output power:	5 W with less than 10 % distortion

## TRANSMITTER

Output power:	150 W PEP +/- 1.4 dB into 50 Ω at 24 V supply voltage. Voice and DSC
Power reduction:	Low power: approx. 20 W PEP
Frequency range:	ITU marine bands 1605 kHz to 30 MHz

## DSC MODEM

Equipment class:	Class B
Protocols:	ITU-R M.493, M.541, and M.1082
Type of calls:	Distress alert calls, distress relay calls, distress acknowledgement calls, all ships calls, individual station calls including polling and ship position request calls, direct dial semi-automatic/automatic service calls
DSC message log:	Stores the 20 last received distress calls Stores the 20 last transmitted calls
User-programmable address book:	Stores 16 calls prepared for transmission

## DSC WATCH RECEIVER

Frequency:	2187.5 kHz, continuous watch
Antenna impedance:	50 Ω

## INTERFACES FOR EXTERNAL EQUIPMENT

<b>AUX</b>	
NMEA:	Position and time information input: NMEA 0183, RMC, GLL, GGA, ZDA
Alarm panel:	SparcBus interface for optional distress alarm panel.
External speaker:	AF output for external 4-8 Ω loudspeaker
<b>ALARM</b>	
External alarms:	Distress/urgency and non-distress/urgency DSC remote alarm outputs
<b>SUPPLY ALARM</b>	
Battery alarm:	Voltage input for high/low battery voltage alarm. Alarm in case of: - Battery voltage too low (adjustable 22-24 V) - Battery voltage too high (adjustable 27-32 V) Input for supply failure alarm. Alarm when connected to GND.
AC alarm:	Input for supply failure alarm. Alarm when connected to GND.
Active antenna supply:	12 V DC, 20 mA available on DSC RX antenna connector, coaxial cable inner connector positive. Short circuit current max 2 mA.

## ANTENNA TUNING UNIT

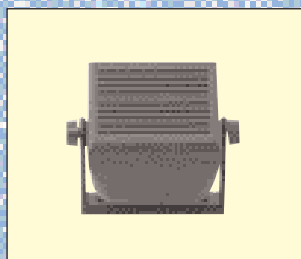
Frequency range:	1.6-30 MHz.
Antenna requirements:	8-18 m wire and/or whip antenna
Antenna tuning:	Fully automatic with no pre-setting
Tuning speed:	0.5-8 s
Input impedance:	Nominal 50 Ω
Power handling capability:	150W-PEP



HT4610 TRANSCIVER UNIT



HC4500B CONTROL UNIT



LS4970 LOUDSPEAKER



HA4615 ANTENNA TUNING UNIT

## SAILOR SYSTEM 4000 150W MF/HF



A FRIEND IN NEED IS A FRIEND INDEED, as the saying goes, and SAILOR is truly committed to being there for you should a problem arise. What is more, we want to make sure that you are always on safe ground, even when you are on the open sea. That is why we operate under the maxim: "SAILOR - When safety counts".

With more than 50 years of experi-

ence in the market, SAILOR is a true professional. We know that we have to earn the loyalty of our customers. That is why nearly 15% of our annual turnover is reinvested in research and development, and why more than one employee in ten is engaged in finding solutions to the challenges of tomorrow.

Today, SAILOR provides a well-known range of communications products that

includes everything from radios for the leisure market to equipment for fishing vessels and complete communications solutions for the deep sea sector. The SAILOR brand has become synonymous with reliable and technologically superior radio equipment - and covers everything from basic VHF units to state-of-the-art satellite systems, AIS (Automatic Identification System) and complete compact GMDSS solutions.



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