

SAILOR HF SSB 250W

One unit – many functions



SAILOR HF SSB 250W PEP is a part of Thrane & Thrane's compact SAILOR System 4000 GMDSS solution. It is an integrated HF radio with voice, DSC and radiotelex built into one unit, from one of the leading and most experienced manufacturers of maritime communication equipment in the world.

- Fully integrated control unit
- Simple and user-friendly soft-key based operation
- Graphic LCD display
- Built-in DSC and radiotelex modem
- Frequency range 100 kHz to 30 MHz continuous operation
- Built-in DSC watch-keeping receiver (1 or 6 ch. optional)
- Built-in power supply/battery charger (optional)

Thrane & Thrane has more than 50 years experience in developing and manufacturing solutions for marine and point-to-point communication. The SAILOR HF SSB 250W system not only fully complies with all GMDSS safety requirements, it also sets new standards in compactness, flexibility and convenience, making it a market leader in the field of professional HF radio-telephones.

SAILOR HF SSB 250W system offers voice transmission, Digital Selective Calling (DSC) and telex operation from one compact, multi-function control unit. In addition, the unique SAILOR HF SSB 250W set-up includes a microprocessor-controlled aerial unit, which auto-

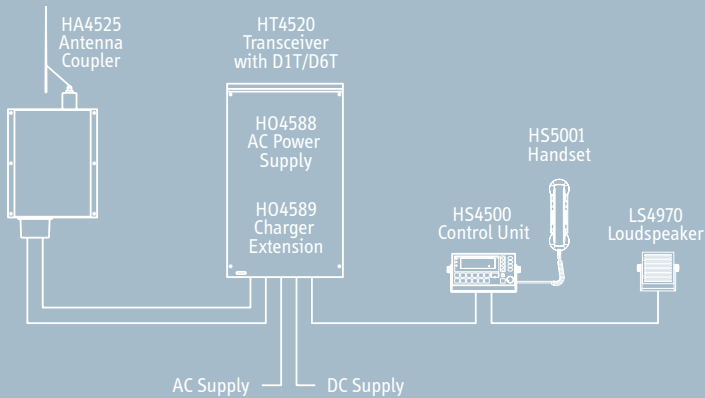
matically matches the impedance of 7-18 metres antennas, and finally, an outstanding transceiver unit with a combined 1 or 6-channel DSC and telex modem and a state-of-the-art MF/HF control unit.

Thanks to the system's logical user menus, accessing the most frequently used functions, such as radio operation, requires only the simplest of entries using the back-lit soft keys on the front panel of the control unit. In a standard GMDSS telex configuration, a monitor or VDU/message processor is not needed. The GMDSS requirements for a radio telex system are fulfilled by using the function keys of the keyboard for dedicated telex functions, and by showing all received and transmitted messages directly on the printer.

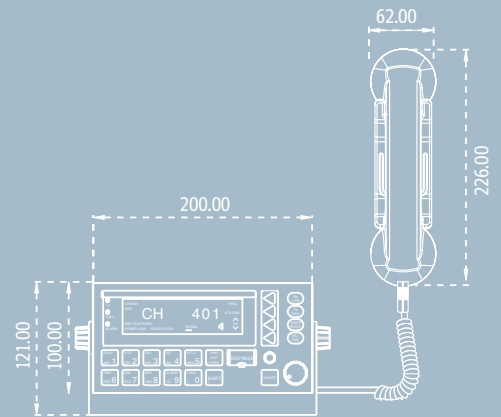
If a SAILOR HF SSB 250W is included in a typical SAILOR System 4000 GMDSS console which is to be used intensively for radio telex transmission, a SAILOR TT-3606E Message Data Terminal can be connected to the transceiver unit. Dedicating a data terminal to the radio telex in a GMDSS set-up makes it possible to monitor the telex communication, and the automated telex facilities makes it very simple to run the ship's telex traffic unattended.

A highly reliable 24V DC power supply is as an integrated part of the 250W transceiver unit. It can also be supplied with a built-in AC power supply and a separate charger extension, which operates as a battery charger for the HF system.

SAILOR HFSSB 250W AC/DC incl. charger



HC4500 Control Unit and Handset



TECHNICAL DATA

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

GENERAL

Frequency stability:	0.35 ppm.
Operating modes:	Simplex and semi-duplex, SSB telephony, AM telephony, Telex and DSC.
Supply voltage:	24V DC. With built-in AC Power Supply (optional): 110-120/220-240V AC (internal switch), 50/60 Hz automatic change-over to DC in the absence of AC supply.
Supply voltage range:	DC: 21.6V to 31.2V. Power reduction below 26V. AC: $\pm 10\%$
Current consumption:	RX only: 60W SSB unmodulated: 125W TX, SSB speech: 220W TX, SSB two-tone: 360W TX, FEC telex: 360W TX, DSC: 510W
Operating temp. range:	-20 °C to +55 °C

RECEIVER

Frequency range:	100 kHz to 30 MHz
Aerial impedance:	50 Ω automatically matched by the aerial tuning unit
Input protection:	30V RMS (EMF)
IF selectivity:	SSB tel.: 350-2700 Hz AM tel.: ± 3 kHz Telex: ± 150 Hz
Sensitivity:	Aerial input for 10 dB SINAD, 50 Ω aerial: SSB tel.: 0.6 μ V AM tel.: 4 μ V Telex: 0.25 μ V
Image rejection:	Greater than 80 dB
IF rejection:	Greater than 80 dB
Spurious rejection:	Greater than 80 dB
Int. gen. spur. signals:	Less than 5 dB SINAD (SSB)
Spurious emissions:	Less than 20pW/50 Ω at aerial connector
Audio output power:	5W with less than 10% distortion

TRANSMITTER

Output power:	250W PEP ± 1.4 dB into 50 Ω , voice, DSC or ARQ telex, 150W ± 1.4 dB into 50 Ω FEC telex, AC supply or min. 26V DC
Sgl. tone max. power:	250W ± 1.4 dB into 50 Ω for a duty cycle less than 55% and modulation rate greater than 3 baud. Reduction to 100W when continuously keyed during 1 minute. Automatic power recovery after 1 minute
Power reduction:	Medium power: 60W Low approx.: 10W
Frequency range:	ITU marine bands / 1605 kHz to 30 MHz
Intermodulation:	Better than -31 dB/PEP in standard two-tone test
Hum and noise:	Less than -50 dB PEP
Spurious emissions:	Less than -43 dB/PEP, typically better than -60 dB/PEP
Suppression of unwanted sideband:	Greater than 60 dB PEP (1 kHz, SSB)

DSC-TELEX MODEM

Protocols:	DSC: ITU-R M. 493.7, M. 541-6, and M. 1082. Telex: ITU-R M. 625-2 (incl. M. 476-4), M. 490, M. 491-1, and 492-5
Modes of operation:	Continuous DSC reception in combination with DSC or NBDP telex in ARQ, FEC and SELFEC 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, 600 Ω
AUX alarm 2:	Telex and non-distress/urgency DSC alarm output

DSC WATCH RECEIVER

Frequency range:	Single ch: 2187.5 kHz Scanning: 100 kHz to 30 MHz
Aerial impedance:	50 Ω
Calling sensitivity:	Aerial input for symbol error rate below 1×10^{-2} : 0 dB μ V
Dynamic range:	With a wanted signal between 80 dB μ V and 0 dB μ V the symbol error rate is below 1×10^{-2}
Cond. spur. emission:	Less than 1 nW measured at the aerial connector
Input protection:	30V RMS (EMF)

BATTERY CHARGER EXTENSION

Charger type:	Automatic, with float charging. IE characteristic
Float charge voltage:	Adjustable 26.8 - 28.8V to voltage specified by battery manufacturer
Main charge current:	Min. 20A (receive condition)
Battery alarm output:	Make/break relay contacts 0.5A 32V
Alarm in case of:	Battery voltage too low (adjustable 22-24V) and battery voltage too high (adjustable 27-32V)
AC mains alarm output:	Make/break relay contacts 0.5A 32V Alarm in case of AC supply failure

AERIAL COUPLER

Frequency range:	1.6 MHz - 30 MHz
Aerial requirements:	7-18 m wire and/or whip aerial
Aerial tuning:	Fully automatic with no presetting
Tuning speed:	0.1 - 0.5 sec
Power capability:	250W PEP 150W PEP continuous single tone

Specifications subject to change without further notice.