

CERTIFICATE

of
EC Type-examination (Module B)

Certificate No: 162120036/AA/00

Product Category: A.1/5.14 A.1/5.15

With respect to Marine Equipment Directive 2014/90/EU and the amending Directive (EU) 2015/559, Telefication declares that the equipment:

Product description: **SAILOR 6310 150W GMDSS MF/HF SSB Radiotelephone with integrated Class-A DSC-controller, NBDP terminal and DSC-watchkeeping receiver**

Trademark: **SAILOR**

Family name: **System 6000 MF/HF**

Type designation: **TT-6310A**

Hardware / Software version: **BOM Revision A / SW: 1.xx**

Variants: **See Annex 3**

Manufacturer: **Thrane & Thrane A/S**

Address: **Lundtoftegaardsvej 93D**

City: **2800 Lyngby**

Country: **DENMARK**

Complies with the international instruments and test standards as listed in the Annex.

This certificate is granted to:

Name: **Thrane & Thrane A/S**

Address: **Lundtoftegaardsvej 93D**

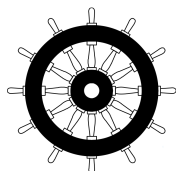
City: **2800 Lyngby**

Country: **DENMARK**

Validity of this certificate is 5 years; **Expiry date: 31 October 2021**

This certificate has **THREE** Annexes.

Zevenaar, 31 October 2016



Willem Jan Jong
Manager Product Certification



General conditions

- Each product to which this certificate relates shall be provided with Marine markings. The Marine marking consist of symbol in the form of a wheel followed by the identification number of the responsible Notified Body for module D, E, F or G, and by the last two digits of the number of the year in which the mark is affixed.
- The holder of this Certificate has drawn up a Declaration of conformity to type with Directive 2014/90/EU and amending Directives, declaring that the product(s) described in this EC Type- examination certificate, satisfy the requirements that apply to them.
- Each product shall be identified by means of type, batch and/or serial numbers and the name of the manufacturer and/or importer.
- If the equipment is to be modified, Telefication shall be notified immediately. Depending on the modifications, Telefication may have additional examinations carried out in consultation with the applicant.
- Enforcement of a new amending directive voids the validity of this certificate for (re)placement of the product onboard ships.

Remarks and observations

The following conditions are applicable:

This certificate covers the following 150 Watt System 6000 versions:

- 150W MF/HF SSB radiotelephone with integrated class-A DSC controller and 2187.5 kHz watchkeeping receiver.
- 150W MF/HF SSB radiotelephone with integrated class-A DSC controller and 6-ch scanning watchkeeping receiver.
- 150W MF/HF SSB radiotelephone with integrated class-A DSC controller, NBDP controller and 6-channel scanning watchkeeping receiver.

There are two transceiver-unit versions; only difference is the type of RF power-amplifier, BJT or FET.

All systems utilize the same hardware; version difference is by software programming.

For NBDP-operation however, the following hardware must be added: keyboard TT-6001A, printer

TT-1252B/TT-3608A and message terminal TT-6006A or TT-6018A.

Verification of which system is on-board ships, is done by readout of the special menu-item on the control-unit:

The Config Status clearly indicates what functionality is active and as such the system version is defined.

Final software version which has been seen during testing: 1.04.

The products to which this certificate relates include the following units or equipment:

- TT-6301A: SAILOR 6301 Control-unit
- TT-6201A: SAILOR 6201 Handset
- TT-6202A: SAILOR 6202 Hand microphone
- TT-6203A: SAILOR 6203 Handset (waterproof)
- TT-6360A: SAILOR 6360 Transceiver-unit (150W BJT PA)
- TT-6361A: SAILOR 6361 Transceiver-unit (150W FET PA)
- TT-6381A: SAILOR 6381 Antenna Tuning Unit
- TT-6081A: SAILOR 6081 AC power supply with charger
- TT-6080A: SAILOR 6080 AC power supply
- PS4655: SAILOR 4655 AC power supply
- TT-1252B or TT-3608A: SAILOR 1252B or SAILOR 3608A Printer
- TT-6001A: SAILOR 6001 Keyboard
- TT-6006A: SAILOR 6006 Message Terminal

- TT-6018A: SAILOR 6018 Message Terminal
- TT-6103A: SAILOR 6103 Multi Alarm Panel
- TT-6209A: SAILOR 6209 Accessory Connection Box
- TT-6208A: SAILOR 6208 CU Connection Box
- TT-6197A: SAILOR 6197 Ethernet Switch
- TT-6270A: SAILOR 6270 External Speaker

Documentation lodged for this EC type-examination

Test Reports:

- Nemko A/S: 138930-3, 23 November 2010
- Nemko A/S: E10178.00, 17 February 2011
- Nemko A/S: 130708, 14 September 2009
- SGS Taiwan Ltd.: HC70206/2010, 15 September 2010
- Telefication B.V.: 20103937200, 02 May 2011
- Telefication B.V.: 20103937302, 30 May 2011
- Telefication B.V.: 20103937309 rev1, 31 May 2011
- Telefication B.V.: 20103937304, 05 May 2011
- Telefication B.V.: 20103937308 rev1, 30 May 2011
- Telefication B.V.: 20103937300, 27 May 2011
- Telefication B.V.: 20103937303 rev1, 31 May 2011
- Telefication B.V.: 20103937307, 30 May 2011
- Delta: DANAK-195321, 12 July 2000
- Delta: DANAK-198724, 13 April 2007
- Delta: DANAK-1911259, 07 February 2011
- RES Laboratory Ltd.: N 01.11, 04 February 2011
- RES Laboratory Ltd.: N 02.11, 04 February 2011
- TUV SUD Product Service: Document 75934224 Report 01 Issue 1, 08 July 2016
- TUV SUD Product Service: Document 75934224 Report 06 Issue 1, 10 August 2016

Product Documentation:

- Assembly drawings
- Bill of materials
- Block diagram
- Electrical diagrams
- Internal photos
- External photos
- Manual
- Installation manual
- Corrosion waiver
- Risk assessment

International Instruments and test standards

The equipment complies with:

EN 300 338-1	February, 2010	V1.3.1
EN 300 338-2	February, 2010	V1.3.1
EN 300 373-1	September, 2013	V1.4.1
EN 301 033	September, 2013	V1.4.1
EN 301 843-5	June, 2004	V1.1.1
EN 60945	October, 2002	Edition 4
ETS 300 067	October, 1993	A1
ETS 300 067	November, 1990	
IEC 60945/Corrigendum 1	April, 2008	Edition 4
IEC 61162-1	November, 2010	Ed. 4.0
IMO Resolution A.694(17)	1991	
IMO Resolution A.806(19)	1995	

ITU-R M.1173-1	March, 2012
ITU-R M.476-5	October, 1995
ITU-R M.491-1	July, 1986
ITU-R M.492-6	October, 1995
ITU-R M.493-13	October, 2009
ITU-R M.541-9	May, 2004
ITU-R M.625-4	March, 2012
ITU-R M.821-1	February, 1997
MSC Resolution 36(63)	May, 1994
MSC Resolution 68(68)/A3	1997
MSC Resolution Cir. 862	1998
MSC.1/Circ. 1460	June, 2013

Technical features and characteristics

The product includes the following features and characteristics:

MF HF equipment

- Operating frequency range: Transmitter: 1.6-30 MHz; Receiver: 0.15-30 MHz
- Modulation method(s): J3E; J2B; A3E (RX only)
- Maximum output power: SSB: 150W_{pep} rated; DSC/NBDP: 120W_{mean} rated
- DSC class A; NBDP

Trademarks and Type designations:

The product as described in this EC type-examination includes the following type designations:

- Product description: SAILOR 6310 150W GMDSS MF/HF SSB Radiotelephone with integrated Class-A DSC-controller, NBDP terminal and DSC-watchkeeping receiver
- Trademark: SAILOR
- Family name: System 6000 MF/HF
- Type designation: TT-6310A
- Hardware version: BOM Revision A
- Software version: SW: 1.xx

- Product description: 150W GMDSS MF/HF SSB Radiotelephone with integrated Class-A DSC-controller, NBDP terminal and DSC-watchkeeping receiver
- Trademark: Highlander
- Family name: System 6000 MF/HF
- Type designation: TT-6310A
- Hardware version: BOM Revision A
- Software version: SW: 1.xx

- Product description: 150W GMDSS MF/HF SSB Radiotelephone with integrated Class-A DSC-controller, NBDP terminal and DSC-watchkeeping receiver
- Trademark: SAM
- Family name: System 6000 MF/HF
- Type designation: TT-6310A
- Hardware version: BOM Revision A
- Software version: SW: 1.xx