

# CERTIFICATE

of  
EC Type-examination (Module B)

**Certificate No: 162120037/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 6320 250W 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-6320A**

**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**

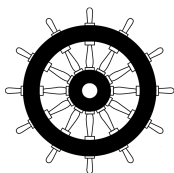
**City: 2800 Lyngby**

**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 250 Watt System 6000 versions:

- 250W MF/HF SSB radiotelephone with integrated class-A DSC controller and 2187.5 kHz watchkeeping receiver;
- 250W MF/HF SSB radiotelephone with integrated class-A DSC controller and 6-ch scanning watchkeeping receiver;
- 250W MF/HF SSB radiotelephone with integrated class-A DSC controller, NBDP controller and 6-ch scanning watchkeeping receiver.

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-6363A: SAILOR 6363 Transceiver-unit (250W)
- TT-6381A: SAILOR 6381 Antenna Tuning Unit
- TT-6081A: SAILOR 6081 AC power supply with charger
- TT-6080A: SAILOR 6080 AC power supply
- 5083: AC power supply
- TT-1252B or TT-3608A: SAILOR 1252B or SAILOR 3608B 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:

- Delta: DANAK-198724, 13 April 2007
- Delta: DANAK-198824, 24 July 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
- 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.: 20103937300, 27 May 2011
- Telefication B.V.: 20103937303 rev1, 31 May 2011
- Telefication B.V.: 20103937304, 05 May 2011
- Telefication B.V.: 20103937307, 30 May 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: 250W<sub>pep</sub> rated; DSC/NBDP: 160W<sub>mean</sub> 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 6320 250W 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-6320A
- Hardware version: BOM Revision A
- Software version: SW: 1.xx
  
- Product description: 250W 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-6320A
- Hardware version: BOM Revision A
- Software version: SW: 1.xx
  
- Product description: 250W 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-6320A
- Hardware version: BOM Revision A
- Software version: SW: 1.xx