QinetiQ

NOTIFIED BODY
No 0191

CERTIFICATE OF TYPE APPROVAL

(EC Certificate of Type Examination - Module B)
(Marine Equipment Directive - 96/98/EC, as amended*1)

Applicant:-
THRANE & THRANE A/S
Lundtoftegårdsvej 93D
DK - 2800 Lyngby
DENMARK

Manufacturer:-
THRANE & THRANE (Aalborg) A/S
Porsvej 2
DK-9200 Aalborg SV
DENMARK

This is to certify that the applicant has submitted details of a:-

MF/HF RADIO Capable of DSC, NBDP and RADIOTELEPHONEY
(Commission Directive 2002/75/EC – Item A.1/5.14)

Of system type known and designated as:-

a) SAILOR System 4000, 500W, GMDSS MF/HF Radio - Type – HC4500
b) SAILOR System 4000, 250W, GMDSS MF/HF Radio - Type – HC4500

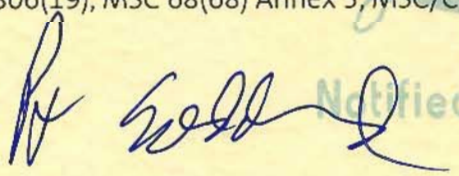
(Comprising component parts and having technical characteristics shown in shedules 1 & 2)

and that this has been tested and assessed, and when used in a combination of component parts as described in the attached schedules, is CERTIFIED as complying with:

ETS 300 067:1990+A1:1998 "Radiotelex equipment operating in the Maritime HF/MF service"
ETS 300 338:1999 "Transmission and Reception of digital selective calling (DSC)"
ETS 300 373:1995+A1:1997 "Maritime Mobile Transmitters and Receivers for HF/MF Bands"
EN 60945:1997 "General Requirements for Marine Equipment"

(being specifications for technical characteristics and methods of measurements), published by the European Telecommunications Standards Institute and Cenelec.

It is also RECOGNISED that the equipment conforms to performance standards not inferior to those adopted by the International Maritime Organisation, and which are contained in the relevant parts of Resolution A806(19), MSC 68(68) Annex 3, MSC/Circ 862 and Resolution A694(17).

SIGNED: 

DATE of ISSUE: ***24th April 2006***

DATE of EXPIRY : ***10th February 2008***

P J Goddard Authorised Signatory

Certificate Number: ***QQ-MED-09/03-01R2***

This Certificate is Valid until expiry date shown, subject to the standard conditions of issue printed on the attached schedule
QinetiQ is not involved in the manufacturers Module D compliance for this equipment.

mca
Maritime and Coastguard Agency
The MCA is an Executive Agency of the Department for Transport

QinetiQ
Cody Technology Park
Ively Road, Farnborough
Hampshire. GU14 0LX

Under the terms of the United Kingdom Statutory Instrument, No 1957 : 1999, the QinetiQ Group PLC (formerly known as DERA) has been Notified to the European Commission by the Maritime and Coastguard Agency as a Body authorised to conduct Conformity Assessment procedures under the provisions of the European Council Directive 96/98/EC on Marine Equipment and issue Certificates of Type Approval.

*1 Commission Directives 2002/75/EC & 2002/84/EC

Certificate of Type Approval - Schedule 1
SAILOR HC4500, 500W, GMDSS MF/HF Radio

The applicant declared that the following units comprise the radio equipment of the designation given at a), on page 1. These units have been assessed & tested, and satisfactory details of these units were included in the technical file. These units form a system capable of the transmission and reception of voice radiotelephony as listed in Item Description A1/5.14 & A1/5.15, given in Annex A1 of Directive 2001/53/EC

MAIN UNIT Comprising:-

Transceiver Control Unit	HC4500	
MF/HF Transceiver - 500W (24V)	HT4550	*1, 2
DSC/Telex Modem (Internal to transceiver)	HO4582	*2
or DSC/Telex Modem (Internal to transceiver)	HO4583 D1T	*2, 3
or DSC/Telex Modem (Internal to transceiver)	HO4584 D6T	*2, 4
Antenna Tuning Unit (500W)	HA4555 or HA4555A	*5

OTHER UNITS:-

Maritime PC	H1640
or Data Terminal/Display	DT4646E or TT-3606E
Keyboard	KB4641E or H2099A or TT-3601E
Printer	H1252A or H1252B
Alarm Panel	AP4365

OPTIONAL UNITS:-

AC Power Supply for 500W	PS4650
or 3 Phase AC Power Supply for 500W	PS4651
or Power Supply	PS4655

----------End of List.

*NOTES:-

1. Transmission is only possible in the marine band. This variant has pre-set tuning of the Tx frequency to Nationally approved channels. Set by ECI supplied PROM.
2. This system is approved as a Class A DSC (digital selective calling) Transceiver for use in the GMDSS.
3. An integral DSC Watchkeeping receiver on 2187.5kHz, is incorporated in this option.
4. An integral DSC Scanning Watchkeeping receiver is incorporated in this option.
5. This certificate supercedes certificate QQ-MED-09/03-01R issued on 19-12-2003 to Eurocom Industries A/S

Technical Characteristics

FREQUENCY OF OPERATION TRANSMIT:	1.6 to 27.1MHz	Simplex/semi-duplex
FREQUENCY OF OPERATION RECEIVE:	100kHz to 30MHz	
CHANNELS	--	Pre Programable to maine ITU Channels by individual "National" Firmware (PROM).
POWER CHARACTERISTIC	20W, 125W or 500W	Switchable
MODULATION	3K00H3EJN, 100HA1AAN, 2K70J3EJN, 304HF1BCN	SSB telephony, AM telephony DSC and Telex
DSC CLASS	Class A	
IEC 61162-1 SERIAL (NMEA) PORTS	Listener - 1 Talker - 0	Conformity to IEC 61162-1:2000. Sentences GLL, GGA & ZDA recognised.
TEMPERATURE RANGE & IEC 60945 CLASS Exposed	-25°C to +55°C, +70°C Storage	-- Antenna Tuning Unit
TEMPERATURE RANGE & IEC 60945 CLASS Protected	-15°C to +55°C.	-- All other units
POWER SOURCE	24V DC 110/220/240V AC, 50/60Hz	- Input direct to transceiver - Input to AC Power Supplies.

Conditions of Issue of this certificate are printed the reverse of sheet 3.

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Hampshire. GU14 0LX

Certificate Number ***QQ-MED-09/03-01R2***

Certificate of Type Approval - Schedule 2
SAILOR HC4500, 250W, GMDSS MF/HF Radio

The applicant declared that the following units comprise the radio equipment of the designation given at b), on page 1. These units have been assessed & tested, and satisfactory details of these units were included in the technical file. These units form a system capable of the transmission and reception of voice radiotelephony as listed in Item Description A1/5.14 & A1/5.15, given in Annex A1 of Directive 2001/53/EC

MAIN UNIT Comprising:-

Transceiver Control Unit	HC4500	
MF/HF Transceiver - 250W	HT4520	*1, 2
DSC/Telex Modem (Internal to transceiver)	HO4572	*2
or DSC/Telex Modem (Internal to transceiver)	HO4573 D1T	*2, 3
or DSC/Telex Modem (Internal to transceiver)	HO4574 D6T	*2, 4
Antenna Tuning Unit (250W)	HA4525 or HA4525A	

OTHER UNITS:-

Maritime PC	H1640
or Data Terminal/Display	DT4646E or TT-3606E
Keyboard	KB4641E or H2099A or TT-3601E
Printer	H1252A or H1252B
Alarm Panel	AP4365

OPTIONAL UNITS:-

AC Power Supply for 250W	HO4588
Battery Charger Extension for 250W	HO4589
AC Power Supply/Charger for 250W	PCH4652

----------End of List.

*NOTES:-

1. Transmission is only possible in the marine band. This variant has pre-set tuning of the Tx frequency to Nationally approved channels. Set by ECI supplied PROM.
2. This system is approved as a Class A DSC (digital selective calling) Transceiver for use in the GMDSS.
3. An integral DSC Watchkeeping receiver on 2187.5kHz, is incorporated in this option.
4. An integral DSC Scanning Watchkeeping receiver is incorporated in this option.
5. This certificate supercedes certificate QQ-MED-09/03-01R issued on 19-12-2003 to Eurocom Industries A/S

Technical Characteristics

FREQUENCY OF OPERATION TRANSMIT:	1.6 to 27.1MHz	Simplex/semi-duplex
FREQUENCY OF OPERATION RECEIVE:	100kHz to 30MHz	
CHANNELS	--	Pre Programable to maine ITU Channels by individual "National" Firmware (PROM).
POWER CHARACTERISTIC	10W, 60W or 250W	Switchable
MODULATION	3K00H3EJN, 100HA1AAN, 2K70J3EJN, 304HF1BCN	SSB telephony, AM telephony DSC and Telex
DSC CLASS	Class A	
IEC 61162-1 SERIAL (NMEA) PORTS	Listener - 1 Talker - 0	Conformity to IEC 61162-1:2000. Sentences GLL, GGA & ZDA recognised.
TEMPERATURE RANGE & IEC 60945 CLASS Exposed	-25°C to +55°C, +70°C Storage	-- Antenna Tuning Unit
TEMPERATURE RANGE & IEC 60945 CLASS Protected	-15°C to +55°C.	-- All other units
POWER SOURCE	24V DC 110/220/240V AC, 50/60Hz	- Input direct to transceiver - Input to AC Power Supplies.

Conditions of Issue of this certificate are printed the reverse of this sheet.

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Hampshire. GU14 0LX

Certificate Number ***QQ-MED-09/03-01R2***

Certificates of Type Approval
Conditions of Issue

1. Each Certificate will be used in its entirety and not reproduced in part.

2 This certificate remains valid until the date shown (normally 5 years) unless cancelled or revoked, provided:-

   i) the design and manufacture remain unmodified from the specimen tested and recorded in the Technical Construction File;

   ii) any conditions contained in the schedule are complied with;

   iii) the equipment remains satisfactory in service and the regulations and standards cited in the appropriate Directives do not change.

3. The mark of conformity may only be affixed to the equipment listed on this certificate and a manufacturer's Declaration of Conformity issued when the production Quality Assurance requirements laid down in Annex B, of the Directive (96/98/EC) is fully complied with and controlled by a written inspection agreement with a Notified Body.

   The use of the QinetiQ Notified Body Number (0191) in combination with the Wheelmark implies that the manufacturer is Registered with the QinetiQ Quality Assurance Scheme. A Certificate of Registration is issued to the manufacturer and should be made available on request. The manufacturer is responsible for ensuring that annual renewal and surveillance are maintained.

4. This certificate does not confer any approval status to this equipment other than defined by, and tested according to the specifications listed on sheet 1.

5. The labeling requirements of IMO Resolution A694(17) shall be met. Descriptions of each unit of apparatus forming part of the equipment will be as given on this Certificate. Each unit of equipment will be marked with the minimum safe distance at which it should be mounted from a standard and steering magnetic compass.

6. No unit of apparatus shall be advertised or labeled as "approved" or "certified" on behalf of the Maritime and Coastguard Agency, the Department of Transport or the QinetiQ Group in any sense other than that it is a type that has been assessed as satisfactory against the specification;

7 The manufacturer must advise QinetiQ of any intended changes to the design or production of the equipment which might affect the equipment performance.

8 Minor Modifications to the equipment will be considered on a case-by-case basis. QinetiQ will review any factory test results, in consultation if necessary, with the test facility that conducted the original Type Approval testing on the equipment. QinetiQ will advise the manufacturer if any further testing is required to maintain valid certification.

9 If an equipment manufacturer wishes to have the type approved equipment designated under alternative names (e.g. agent/distributor's name and model number), a separate application should be completed and sent to QinetiQ.

QinetiQ Ltd
Marine Approval and Testing Service
Cody Technology Park, Room 1005/A5
Ively Road, Farnborough
Hants, GU14 0LX
United Kingdom

Notified Body 0191