



NOTIFIED BODY  
No 0191

## CERTIFICATE OF TYPE APPROVAL

(EC Certificate of Type Examination - Module B)  
(Marine Equipment Directive - 96/98/EC)

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

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

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

**INMARSAT – C, SHIP EARTH STATION**  
(Commission Directive 2002/75/EC – Item A.1/5.13)

Of system type known and designated as:-

**Inmarsat-C Mobile Earth Station - Type – SAILOR TT-3020C**  
**Also known as: - Thrane & Thrane TT-3020C or SAILOR H2095C**

(Comprising component parts and having technical characteristics shown in schedules 1)

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

**IEC 61097-4 :1994 "INMARSAT-C ship earth station equipment"\***  
**IEC 60945 : 2002 "General Requirements for Marine Equipment" - EMC Clauses**

(being specifications for technical characteristics and methods of measurements, published by the International Electrotechnical Commission).

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 A807(19) as amended by MSC 68(68) Annex 4, MSC/Circ 862 and Resolution A694(17).

\*Note. as interpreted by the Inmarsat Organisation in their System Definition Manual for Inmarsat C and Change Notice 114.

**SIGNED:**

R Sharp

Authorised Signatory

**DATE of RE-ISSUE:** 7<sup>th</sup> November 2008

**DATE of EXPIRY :** 12<sup>th</sup> November 2013

**Certificate Number:** QQ-MED-24/08-02

This Certificate is Valid until expiry date shown, subject to the standard conditions of issue printed on the attached schedule  
QinetiQ is not involved with the Quality Module (Module D) assessment and registration of this manufacturer.

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



Maritime and Coastguard Agency

The MCA is an Executive Agency of the Department of Transport, Local Government and the Regions

*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.*



# Certificate of Type Approval - Schedule 1

## Inmarsat-C Mobile Earth Station - Type – TT-3020C or H2095C

The applicant declared that the following units comprise the radio equipment of the designation given on page 1. These units have been assessed & tested, and satisfactory details of these units were included in the technical file. These units form systems consistent with the Item Description A1/5.13, given in Annex A1 of Directive 2002/75/EC

MAIN UNIT Comprising:-	TT-3020C & Sailor TT-3020C	H2095C	
Transceiver Unit	403020C	H2095C	*3
Maritime Inmarsat C Antenna	403005A or 403005M or 403001B Opt-001	55.108 or 55.107 or SA1605M	*3
Message Terminal / LCD Display and Keyboard	403606E 403601E or 403601B (Cyrillic)	DT4646E KB4641E or H2099A	*3
Hard Copy Printer	403608A	H1252B	*3
Remote Alarm / Distress Button	403042C or 405042A	55.198	*3, 5
Printer / Remote Alarm / Distress Button	403042D	H1604D or TT-3042C	*3
AC / DC Power Supply	403680B	H2096B	*3
or Power Supply	80465511	PCH4652 or PS4655	*3
or Power Supply	801194xx	N163S	*3
GMDSS Alarm Panel	804365xxxx or 405065A	AP4365	*3, 5
Alarm panel adapter	403687A		*5
With Software configuration:-			
DCE software	Version 3.36	*4	
DTE software	Version 3.41	*4	

### \*NOTES:-

- This certificate consolidates manufacturer, Brand and component part number details of Certificates QQ-MED-51/03-01 and QQ-MED-51/03-02 without technical re-assessment of the product
- This certificate is issued in recognition of INMARSAT Certificate IT-04-061-01 and its attached Type Approval Particulars, TA-04-060-21 dated 15 August 2007. Testing conducted by the INMARSAT Organisation and their issue of certification allows a presumption of conformity to the technical detail of IEC 61097-4.
- The items listed reflect either TT-3020C or H2095C system designations and Sailor or Thrane & Thrane brand identity but are technically identical and items from either column may be mixed to form an operational system
- Software Modification: This approval is valid for equipment including subsequent software versions only where written details of such versions have been submitted to and accepted by QinetiQ.
- The Alarm panels 405042A and 405065A both need the 403687A adapter unit to interface correctly with the 403020C Transceiver unit
- This schedule and certificate supersedes and replaces certificate number QQ-MED-51/03-02R3 issued on 24-09-2007.

### Technical Characteristics

FREQUENCY OF OPERATION	TRANSMIT: RECEIVE:	1626.5MHz to 1660.5MHz 1525.0MHz TO 1559.0MHz	
CHANNELS		N/A	
POWER CHARACTERISTIC		EIRP 14±2dBW	at 5° elevation
MODULATION		BPSK	
DSC CLASS		None	Not applicable to Inmarsat equipment
IEC 61162-1 SERIAL (NMEA) PORTS		Listener - 1 Talker - 1 (only if internal GPS fitted)	XDR, MTW, MWV & VHW, sentences plus VTG, GGA, GLL & HDT (if not from internal GPS) VTG, GGA, GLL, HDT & ZDA O/P if GPS equipped.
TEMPERATURE RANGE & IEC 60945 CLASS	Exposed Protected	-25°C to +55°C (+70°C storage) -15°C to +55°C.	-- Antenna -- All other units
POWER SOURCE		24V DC 100-230V AC, 50/60Hz	- Input direct to transceiver Input to AC/DC Power Supply (option)

**Conditions of Issue of this certificate are printed the next page.**

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

Certificate Number **QQ-MED-24/08-02**



## 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) Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply;
  - iv) and, the equipment remains satisfactory in service.
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 certification renewal and periodic surveillance are maintained.
4. USCG Approval Number: A Mutual Recognition Agreement (MRA) on marine equipment exists between the European Commission and the US Coastguard but only applies to equipment types included in the listing of marine equipment annexed to the MRA. For included equipment a USCG Approval number may be issued and can be found under the MED certificate number on the first page and should be used on the main identity label of the equipment. Radio and Radar equipment continues to need separate or additional approval by the USA FCC.
5. 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.
6. 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.
7. 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;
8. The manufacturer must advise QinetiQ of any intended changes to the design or production of the equipment which might affect the equipment performance.
9. 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.
10. 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  
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