



NOTIFIED BODY
No 0191

CERTIFICATE OF TYPE APPROVAL

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

Applicant:-
SAM Electronics GmbH
Behringstrasse 120
22763 Hamburg
Germany

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:-

DEBEG - Inmarsat-C Mobile Earth Station - Type – 3220C

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

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:

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), 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 ISSUE:

27th November 2008

DATE of EXPIRY :

26th November 2009

Certificate Number:

QQ-MED-28/08-01

This Certificate is Valid until expiry date shown, subject to the standard conditions of issue printed on the attached schedule See Condition 3 for a Module D statement.



Maritime and Coastguard Agency

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

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.

Certificate of Type Approval - Schedule 1

DEBEG Inmarsat-C Mobile Earth Station - Type – 3220C

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:-

SAT-C Transceiver Unit	Part No.
Maritime Inmarsat C Antenna	DEBEG 3220C
or Maritime Inmarsat C Antenna	TT 3005A
Data Terminal	TT 3005M
and Keyboard	DEBEG 3646
Hard Copy Printer	KB 4641E or H 2099A
Remote Alarm / Distress Button	DEBEG H1252B
Printer / Remote Alarm / Distress Button	3042C
AC / DC Power Supply	3042D
or Power Supply (auto changeover to Battery)	DEBEG H2096B
GMDSS Alarm Panel	DEBEG 9202D
	DEBEG 9565

With Software configuration:-

DCE software	Version 3.32	*3
DTE software	Version 3.30	*3

*NOTES:-

- 1 This certificate is issued in recognition of INMARSAT Certificate IT-04-060-01 and its attached Type Approval Particulars, TA-04-060-17, dated 6 November 2003. Testing conducted by the INMARSAT Organisation and their issue of certification allows a presumption of conformity to the technical detail of IEC 61097-4.
- 2 This Unit is identical to the Thrane & Thrane TT-3020C Inmarsat C Transceiver approved under renewed certificate number QQ-MED-24/08-01 except for STN Atlas "DEBEG" labels.
- 3 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.

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:- 2 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 & 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 on page 3.

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Certificate Number **QQ-MED-28/08-01**

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
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