



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:-

**THRANE & THRANE – Dual Mode-CAPSAT Mobile Earth Station - Type – TT-3028CM**  
(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 : 1996 "General Requirements for marine equipment"

(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:**

**DATE of ISSUE:** 28<sup>th</sup> November 2003

**DATE of EXPIRY :** 27<sup>th</sup> November 2008

**P J Goddard Authorised Signatory**

**Certificate Number: QQ-MED-52/03-01**

**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.**

QinetiQ  
Fraser Range  
Fort Cumberland Road, Eastney  
Portsmouth, Hampshire PO4 9LJ



Mantime 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 3028CM

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--	Part No
CAPSAT Dual Mode Transceiver Unit	403028CM *2
GMDSS Dual Mode Handset/Cradle	403626CM *2
Maritime Inmarsat C Antenna	403005A or 403005M
or Maritime Inmarsat C Antenna	403001B Opt-001
Message Terminal	403606E
and Keyboard	403601E
or Keyboard, Cyrillic	403601B
Hard Copy Printer	403608A
Remote Alarm / Distress Button	403042C
Printer / Remote Alarm / Distress Button	403042D
AC / DC Power Supply	403680B
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-04-079-01 and its attached Type Approval Particulars, TA-04-079-07, 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 transceiver includes an Inmarsat Mini-M transceiver and a GPS receiver as additional integrated functions, these have only been assessed to ensure no degradation of the essential GMDSS functions available via Inmarsat C.
- 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	XDR, MTW, MWV, HDT & VHW I/P sentences VTG, GGA, GLL, & ZDA O/P sentences
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 reverse of this sheet.**

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Fraser Range  
Fort Cumberland Road, Eastney  
Portsmouth, Hampshire PO4 9LJ

Certificate Number **QQ-MED-52/03-01**



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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 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 labelling 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 labelled 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 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.