



DET NORSKE VERITAS

EC TYPE-EXAMINATION CERTIFICATE

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment as amended by directive 2002/75/EC, issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Directorate. This certificate is issued by Det Norske Veritas under the authority of the Government of the Kingdom of Norway.

CERTIFICATE NO. MED-B-1962

This Certificate consists of 3 pages

This is to certify that the product

Portable Survival craft two-way VHF radiotelephone apparatus

with the type designation(s)

Tron TR20 GMDSS

Manufactured by

Jotron Electronics AS

TJODALYNG, Norway

is found to comply with the requirements in the following Regulations/Standards:

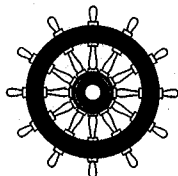
Annex A.1, item No. A.1/5.17 and Annex B, Module B in the Directive. SOLAS 74 as amended, Reg. III/6.2.1, IMO Res..97 (73), 2000 HCS Code, 8.2.1.1, IMO Res. A.809 (19) Annex 1, IMO Res. A.694 (17), ITU-R M.489-2 (10/95), ITU-R M.542.1 (07/82)

Further details of the product and conditions for certification are given overleaf.

Place and date

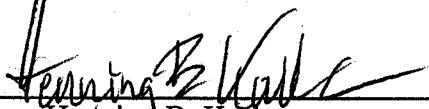
Høvik, 2003-06-30

for **DET NORSKE VERITAS AS**




This Certificate is valid until

2007-06-30


Herming B. Karlsen
Manager, MTPNO370
Department Systems & Components

Notified Body No. 0575


Ahmad Naddaf
Surveyor

DNV local office:

DNV Porsgrunn



Notice: The certificate is subject to terms and conditions overleaf. Any significant changes in design or construction of the product, or amendments to the Directive or Standards referenced above may render this certificate invalid. The product liability rests with the manufacturer or his representative in accordance with Council Directive 96/98/EC, as amended.

The Mark of Conformity may only be affixed to the product and a Declaration of Conformity may only be issued when the production/product assessment module referred to in the council directive, is fully complied with.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



Cert. No.: MED-B-1962
Case No.: TAA3605
File No.: A.1/5.17
File 841.4

Product description

Main Unit: JOTRON TRON TR20 GMDSS.
Primary Lithium Battery: 80060 (JOTRON).
Battery Charger: JOTRON RCH-20 (optional).
Secondary Ni.MH Battery type 80059 (JOTRON), 7.2V/1500mAh (optional).

Applications/Limitations

- Used for on-scene communication with dedicated sealed battery type 80060 (JOTRON), and general communication with approved rechargeable batteries as listed above.
- Battery Charger RCH-20 to be supplied according to the manufacturers' installation manual.

Type Examination documentation

- JOTRON Electronics a.s: "User Manual Tron TR20 GMDSS and Tron TR20 Plus Handheld VHF Radios" rev. Feb 2002.
- JOTRON Electronics a.s: "Tron TR20 GMDSS and Tron TR20 Plus Technical Handbook" rev. Jan. 2002.
- JOTRON Electronics a.s: "RCH-20 Charger for Tron TR20 GMDSS/Plus Technical Handbook" rev. Dec. 2001.
- JOTRON Electronics a.s: "Description of software used in Tron TR20 GMDSS" rev. 14.1.2002.
- COMLAB Test Report: "ETS 300 225- Survival Craft VHF (January 1998)", No. 01/ 05883 / 5, dated 2001-10-05.
COMLAB "Bekreftelse på modulasjon og båndbrede på Jotron TRON TR20", ref. 01/05883, dated 2002-01-28.
- DNV Technical Report: "JOTRON ELECTRONICS AS, TYPE TESTING OF HANDHELD VHF RADIO TYPE TRON TR20 GMDSS" REPORT NO. 2001-3269 REVISION NO. 1.
- DNV Technical Report: "JOTRON ELECTRONICS AS, TYPE TESTING OF BATTERY-CHARGER MODEL RCH-20 "REPORT NO. 2002-3063 REVISION NO. 1.
- DNV Technical Report: "JOTRON ELECTRONICS AS, TYPE TESTING OF BATTERY-CHARGER MODEL RCH-20 "REPORT NO. 2003-3235" REVISION NO. 1.
- SP Proving/forsking REPORT: "Simulated solar radiation test", ref. no P105518, dated 2001-11-13.

Tests carried out

ETS300225 Ed. 3 (1998-01),
EN300828 V1.1.1 (1998-03),
EN60945 (1997).






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Marking of product


The product to be marked with manufacturer's name or trademark and type and serial number identification, type of batteries approved for use with the equipment, and the MED Mark of Conformity as shown below:

Mark of conformity

The manufacturer is allowed to affix the Mark of Conformity  according to Article 11 in the Council Directive 96/98/EC on Marine Equipment and issue a Declaration of Conformity, only when the module D or E or F of Annex B in the same directive is fully complied with.

- Module D: The quality system for production and testing shall be approved by the Notified Body.
- Module E: The quality system for inspection and testing shall be approved by the Notified Body.
- Module F: Compliance of the products to type as described in this EC Type-Examination Certificate must be verified by the Notified Body who also shall issue a Certificate of Conformity.

END OF CERTIFICATE


Odd Mæddel
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