



# 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-3591**

This Certificate consists of 3 pages

*This is to certify that the product*  
**406 MHz (COSPAS-SARSAT)**

*with the type designation(s)*  
**Tron S-VDR CAPSULE**

*Manufactured by*  
**Jotron Electronics AS**  
TJODALYNG, Norway

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

Module B in the Directive and SOLAS 74 as amended,  
IMO Res. A.662(16), IMO Res. A.694(17), IMO Res. A.696(17), IMO Res. A.810(19),  
IMO Res. MSC 56(66), IMO Res. MSC 120(74), IMO MSC/Circ 862,  
ITU- R M.633-2 (05/00), ITU-R M.690-1 (10/95)

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

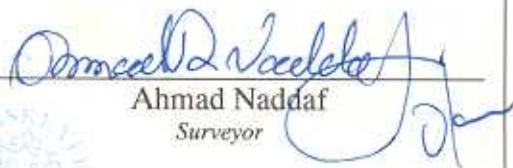
*Place and date*  
Høvik, 2006-04-10  
for DET NORSKE VERITAS AS



*This Certificate is valid until*  
2010-09-12

*for*   
Tore Morten Wetterhus  
Manager, MTPNO370  
Department Systems & Components

Notified Body No. 0575

  
Ahmad Naddaf  
Surveyor

*DNV local office:*  
DNV Sandefjord



*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-3591  
Job Id.: TAA4446  
File No.: A.1/5.6  
841.30

## Product description

Main unit: Tron S-VDR CAPSULE  
Bracket: FBR-3

## Applications/Limitations

Emergency Position Indicating Radio Beacon (EPIRB) for use with the Cospas/Sarsat 406 MHz distress system.

The capsule may also be used as a storage device for Simplified Voyage Data Recorder (S-VDR) systems, as described in DNV TA certificate No. 9686.

## Type Examination documentation

- JOTRON Electronics AS: "Technical Manual" (Revision F)
- JOTRON Electronics AS: "Operators Manual" (Revision B)
- JOTRON Electronics AS: "Jotron test report: Tron S-VDR CAPSULE Tests performed by Jotron Electronics AS and supervised by Det Norske Veritas, Project no.: 0405\_SVDR dated 2005-08-01 Version A"
- TUV/BABT: "Report on Testing of the Jotron Electronics AS Tron S-VDR Capsule in accordance with Cospas/Sarsat 406 MHz Distress Beacon Type Approval Standard T.007 Issue 3 Revision 11 October 2004" [Report No. RM613985/01 Issue 5, January 2006]
- COSPAS-SARSAT Type Approval Certificate Number: 155, Issued 6 February 2006
- Process specification PS-460 (X-82206 Battery Module), JOTRON
- DNV: "Technical Report JOTRON Electronics AS Environmental Testing of TRON S-VDR CAPSULE" [Report No. 2005-3350, Revision No. 02]
- COMLAB: "Test Report: 45578/3; Item tested: Tron S-VDR; Equipment type: 121,5 MHz Homing device"



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### Tests carried out

Environmental tests according to IEC-60945 (4<sup>th</sup> edition, 2002)  
Performance tests according to IEC-61097-2 (2<sup>nd</sup> edition, 2002)  
Performance tests according to IEC-61996 & IEC-61996-2 (80/410/CDV) dated 2005-05-20  
IMO MSC/Circ 862

### Marking of product

The product to be marked with manufacturer's trademark: **Tron S-VDR CAPSULE** and serial number identification.

### 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