



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-4835

This Certificate consists of 6 pages

This is to certify that the
Track control system

with type designation(s)

Japan Radio Co., Ltd. Track Control System Category B

Manufacturer

Japan Radio Co., Ltd.

Mitaka 181-8510, Japan

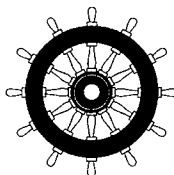
is found to comply with the requirements in the following Regulations/Standards:
Annex A.1, item No. A.1/3.33 and Annex B, Module B in the Directive. SOLAS 74 as amended, Regulation X/3, 2000 HSC Code 7.2.2 and IMO FTP Code.

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

Place and date

Høvik, 2008-07-04

for DET NORSKE VERITAS AS



This Certificate is valid until

2013-07-04

Kristen Ulveseter

Kristen Ulveseter
Manager, MTPN0370

Department Systems & Components

Notified Body No. 0575

Finn Spone

Finn Spone
Surveyor

DNV local office:
Yokohama



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-4835
Job Id.: 344.1-000192-2
Item No.: A.1/4.33

Product description

The Japan Radio Co., Ltd. Track Control System comprises:

- Japan Radio Co., Ltd. ECDIS JAN-901M/701/901B/701B, and
- Tokimec Inc. Heading Control System PR-6000, or
- Yokogawa Denshikiki Co., Ltd. Heading Control System PT500A

See Appendix for details.

For latest revision of the Appendix, see <http://exchange.dnv.com/tari>

Applications/Limitations

See Appendix.

- The installation shall be finally tested and verified onboard in accordance with installation guidelines of the documents “JAN-701/901M ECDIS Service Manual” or “JAN-701B/901B ECDIS Installation Manual”, PR-6000 Steering Stand Operator’s Manual” and “Autopilot PR-6000 Installation Manual”, or “Heading Control System PT500A Service Manual”.

Type Examination documentation

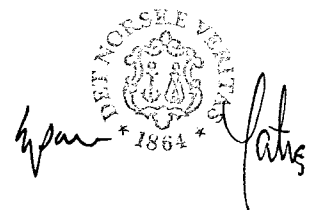
See Appendix.

Tests carried out

- Performance testing, IEC 62065 (2002)
- Environmental testing, IEC 60945 (2002)
- Serial interface testing, IEC 61162-1 (2007)
- Serial interface testing, IEC 61162-2 (1998)

Marking of product


The ECDIS shall be marked with “Track Control System Cat.B(JRC and TOKIMEC System)” or “Track Control System Cat.B(JRC and YDK System)”.





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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.

USCG Approval

An U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the United States of America and the EEA EFTA states on the mutual recognition of certificates of conformity for marine equipment" signed 17 October 2005.

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Product description

The Japan Radio Co., Ltd. Track Control System comprises:

- Japan Radio Co., Ltd. ECDIS JAN-901M/701/901B/701B, and
- Tokimec Inc. Heading Control System PR-6000, or
- Yokogawa Denshikiki Co., Ltd. Heading Control System PT500A

Software Modules

- Japan Radio Co., Ltd. ECDIS JAN-901M, JAN-701, JAN-901B or JAN-701B

Name	Version
TCS	ERm 4.0.0 (JAN-901M/701) or 01.00 (JAN-901B/701B)

- Tokimec Inc. Heading Control System PR-6000

Main module name	Version
MMA	V3.70
PID	V3.70
ADNCT	V1.10

- Yokogawa Denshikiki Co., Ltd. Heading Control Sysmte PT500A

Main module name	PCB No.	SW Module	Version
Auto Steering Unit	Auto CPU	CR155	K
Auto Steering Unit	I/O (2)	CR154	B
Terminal Unit	CPU BD	CR081	B
Annunciator Unit	CPU BD	CR080	B

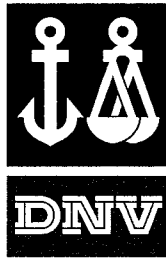
Applications/Limitations

Japan Radio Co., Ltd. Track Control System complies with the requirements of IMO and IEC 62065 Category B (Multiple straight leg track control with assisted turns between legs) provided the following is complied with:

- The sub-systems identified under the product description above shall hold valid MED EC type examination certificates.
- The Track Control system shall be interfaced to heading device(s), speed log(s) and positioning sensor(s) holding valid EC type examination certificates.

Japan

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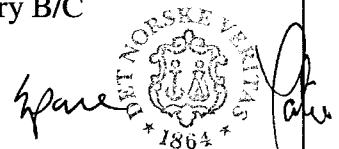
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- The system shall be connected to an alarm transfer system for transfer of back-up navigator alarms.
- The installation shall be finally tested and verified onboard in accordance with installation guidelines of the documents "JAN-701/901M ECDIS Service Manual" or "JAN-701B/901B ECDIS Installation Manual", "PR-6000 Steering Stand Operator's Manual" and "Autopilot PR-6000 Installation Manual", or "Heading Control System PT500A Service Manual".

Type Examination documentation

- Japan Radio Co., Ltd. JAN-901M ECDIS Instruction Manual Edt.1 Jul. 2004, Doc. No. DC00-JAN-901M
- Japan Radio Co., Ltd. JAN-701 ECDIS Instruction Manual Edt.3 Jun. 2004, Doc. No. DC00-JAN-701
- Japan Radio Co., Ltd. JAN-701/901M ECDIS Service Manual Ver.1 Nov. 2004, Doc. No. DC70-JAN-701/901M
- Tokimec Inc. PR-6000 Steering Stand Operator's Manual, Apr. 2006, Doc. no. E11-3034A
- Japan radio Co., Ltd. Additional Manual for Automatic Sailing TCS model Category B (Tokimec PR-6000) Jul. 2005
- Tokimec Inc. Autopilot PR6000 Installation Manual Edt.1
- Japan Radio Co., Ltd. Additional Instruction Manual (Instruction for Automatic Sailing) for JAN-701/901M ECDIS, PT500A Autopilot, TCS model Category B
- Yokogawa Denshikiki Co., Ltd. PT500A Service Manual, Doc. no. SM80B22M02E 6th Edt. 2006.05
- Yokogawa Denshikiki Co., Ltd. PM208 Adaptive Autopilot PT500A Series User's Manual 18th Edt. IM 80B02-19E
- Acceptance test procedures and results for track control system category B (with Tokimec), June 03 2008
- Japan Radio Co., Ltd. JAN-701B/901B ECDIS Installation Manual Edt.1 Jan. 2008
- Japan Radio Co., Ltd. JAN-701B/901B ECDIS Instruction Manual Edt.1 2008
- Acceptance test procedures and results for track control system category B (with Yokogawa), Apr. 23 2008
- Japan Radio Co., Ltd. Additional Instruction Manual (Instruction for Automatic Sailing) for JAN-701B/901B ECDIS, PR-6000 Autopilot, TCS model Category B/C
- Japan Radio Co., Ltd. Additional Instruction Manual (Instruction for Automatic Sailing) for JAN-701B/901B ECDIS, PT500A Autopilot, TCS model Category B/C





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Place and date
HØVIK, 2008-07-04


Finn Spone



END OF CERTIFICATE