



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-5475**

This is to certify that the
Electronic Chart Display and Information System (ECDIS) with backup, and Raster Chart Display System

with type designation(s)
Navmaster ECDIS

Manufacturer
PC Maritime Ltd.
PLYMOUTH, United Kingdom

is found to comply with the requirements in the following Regulations/Standards:
Annex A.1, item No. A.1/4.30 and Annex B, Module B in the Directive SOLAS 74 as amended, Regulation V/18, V/19 & X/3, IMO Res A.694(17) & A.817(19), IMO Res. MSC. 64(67), 86(70), 191(79) & 232(82) and 2000 HSC Code 13

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

Høvik, 2009-09-23
for Det Norske Veritas AS



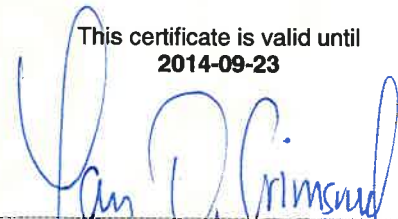
Eivind Mykland
Head of Department



Notified Body No.: **0575**

DNV local office:
DNV Southampton

This certificate is valid until
2014-09-23



Jan Tore Grimsrud
Surveyor



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.



Certificate No.: MED-B-5475
Item No.: A.1/4.30
Job Id.: 344.1-001412-1

Product description

Navmaster ECDIS consisting of the following components:

- Computer
- Monitor
- Keyboard/Mouse
- Interface unit

For more product details see Appendix.

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

Notes

- A dual installation of Navmaster ECDIS is found to comply with the requirements for ECDIS with Back-up arrangements.
- The Navmaster ECDIS is found to comply with the requirements for ECDIS in RCDS mode of operation when using HCRF navigational chart data format.

Application/Limitation

- The operating system is Microsoft Windows XP.
- The installation shall be installed and tested on board according to the commissioning test procedure as described in Installation and User manuals.

Type Examination documentation

See Appendix for details.

Tests carried out

- Performance testing, IEC 61174 Ed. 3.0 (2008)
- Environmental testing, IEC 60945 (2002)
- Serial interface testing, IEC 61162 (2007)
- Presentation of navigation information, IEC 62288 (2008)

Marking of product

The mark "Navmaster ECDIS" shall appear on an equipment label to be applied to the equipment in a single visible location.

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 shall 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.



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Product description

Navmaster ECDIS consisting of the following components:

Hardware modules:

Computer :

- ISIC PCM4
- Graphical card Matrox G550
- Interface unit Moxa CP-132UL-V2
- Interface unit Moxa CP-134U
- Interface unit Moxa CP-102U
- Interface unit Moxa C-218 with OPT 8F connection board
- Radar overlay card C-Map ADSP 160
- Key board Cherry G84xx
- Track ball "Mousetrack" or
- Logitech Trackman Wheel

Monitor:

- ISIC MON 1900MI or
- ISIC MON 2000MI

Software modules:

- Navmaster ECDIS software ver. 7.0.0.X
- C-Map SDK ver. 4.3.2.xx
- IHO presentation library ver. 3.4

Type Examination documentation

Description:	Document no:
Navmaster User Guide	Version 7.0
Navmaster ECDIS hardware installation guide	Marking 2009
Compass safe distance measurements of trackball	DANAK-198084
Flat Panel Display –ECDIS monitor	6542/080370/2004/S3330
Compass safe distance measurements of 20 inch maritime monitor	DNV report no. 2005-3356
Type approval testing of PCM4 Marine computer System Modules	DANAK-198181
Type approval testing of PCM4 Marine computer System Modules	DANAK-198057
PC Maritime - IEC 61174 Edt 3 Test Results	
PC Maritime - IEC 62288 Edt 1 Test Results	
PC Maritime - S-63 Test Definitions and Scripts for Encrypted ENC's	
ISIC PCM4-965 EUT test report	
Conf. Test Rep. 20" TFT Flat Panel Display MON2000MII ECDIS report	
MON1900MII ECDIS report.	





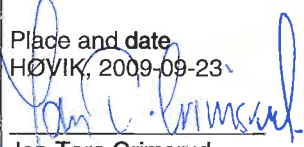
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Type Examination documentation continue

ISIC A/S - Rev. 1 -DNV_20053356_MON2000MII_60945.11.2	
NEM_45157_MON2000MII_60945	
DEL A504845-1R2_60945 PCM4-965	
IEC 60945 test report for MON2000MI	Nemko report order no. 45157
IEC 60945 for Cherry keyboard	Mariner systems report 05.10.2004

Place and date
HØVIK, 2009-09-23


Jan Tore Grimsrud

END OF CERTIFICATE



