



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 2008/67/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-5858**

This is to certify that the
Electronic Chart Display and Information System (ECDIS)

with type designation(s)
ECDIS-4000

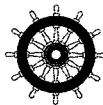
Manufacturer

Adveto Advanced Technology AB
Spånga, Sweden

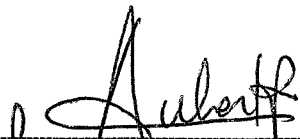
is found to comply with the requirements in the following Regulations/Standards:
Annex A.1, item No. A.1/4.30 and Annex B, Module B in the Directive. IMO Resolutions A.694(17), MSC.191(79) & MSC.232(82)

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

Høvik, 2010-01-27
for Det Norske Veritas AS




This Certificate is valid until
2015-01-27


for Eivind Mykland
Head of Section

Notified Body No.: **0575**

DNV local office:
DNV Stockholm


Arve Løpsøe
Surveyor







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-5858
Item No.: A.1/4.30
Job Id.: 344.1-000411-2

Product description

ECDIS-4000 consisting of the following components:

- Computer
- Monitor
- Keyboard/ Trackball
- Sensor connection unit
- Control unit (optional)
- Security Internet gate (optional)

For more product details see Appendix.

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

Application/Limitation

- The operating system is Microsoft Windows XP.
- The ECDIS-4000 shall be supplied by an Uninterruptible Power Supply (UPS) in accordance with Installation, setup and maintenance manual.
- The installation shall be verified and tested onboard according to Installation, setup and maintenance manual.

Notes

See Appendix.

Type Examination documentation

See Appendix.

Tests carried out

- Performance testing, IEC 61174 Ed. 3.0 (2008)
- Environmental testing, IEC 60945 (2002)
- Serial interface testing, IEC 61162 (2007) and IEC 80/520/INF
- Presentation of navigation information, IEC 62288 (2008)

Marking of product

The mark "ECDIS-4000" 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 of Certificate Conformity.





Certificate No.: MED-B-5858
Item No.: A.1/4.30
Job Id.: 344.1-000411-2

APPENDIX REV. NO. 1 (Page 1 of 2)

Product description

ECDIS-4000 consisting of the following components:

Hardware modules:

Computer:

- Hatteland HTC01, with onboard graphics Q35 chipset

Monitor:

- Hatteland JH 19T14 MMD, or
- Hatteland JH 20T17 MMD, or
- Hatteland JH 23T12 MMD

Keyboard/ Trackball:

- Cherry G84-5400, or
- CKS 96T-OEM-Black-3
- MOUSE-TRAK, B-9PIND (Optional - trackball only)

Sensor connection unit:

- Adveto SCU Qwerty N8E, or
- Adveto SCU-2 Qwerty CN8E

Control unit (optional):

- Adveto 20S, or
- Adveto 16USB

Security Internet Gate (optional):

- Adveto ECDIS Security Internet Gate (ESIG)

Software modules:

- ECDIS-4000 software ver. 4000.10.xx
- Seven Cs EC2007 kernel ver. 5.11
- IHO presentation library ver. 3.4

Notes

- A dual installation of ECDIS-4000 is found to comply with the requirements for ECDIS with Back-up arrangements.
- ECDIS-4000 can be delivered in 3 different versions: Base, Standard and Extended.
- ECDIS-4000 may be optionally connected to internet to provide Primar ECDIS online functionality provided the Security Internet gate is installed.
- ECDIS-4000 may be optionally provided with conning display functionality.
- ECDIS-4000 has been additionally assessed and found compliant with IEC specification 80/520/INF, for communicating alert related information, using ALR and ACK sentences, with an external alert handling device (e.g. a central alarm system).
- ECDIS-4000 may be optionally provided with the additional non-standard night colour mode "Norwegian Night Presentation", specifically developed for High Speed Craft navigation.
- ECDIS-4000 may be optionally provided with seismic operation functionality.
- ECDIS-4000 may be optionally provided with CCTV control and display functionality.





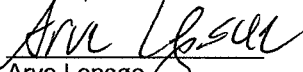
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Type Examination documentation

Description:	Document no:
ECDIS-4000 Users Manual	2010-01-13
ECDIS-4000 Technical Description	2009-12-14
ECDIS-4000 Installation and Setup Manual	2010-01-11
ECDIS-4000 Instruction for Norwegian Night Presentation	2009-12-14
ECDIS-4000 Performance test report	Revision 4, 2009-11-03
Test report 1 Adveto ECDIS	2005-05-04
Test report 2 Adveto ECDIS	2005-05-04
Survey report - Alternative colour presentation on ECDIS	2009-11-03
Survey report – Onboard trials - Alternative colour presentation on ECDIS	2009-12-02
Type approval testing of CKS keyboard with trackball, type GEA50230	Report No. 2005-3169, Rev. 01
Environmental testing of Adveto Control Unit model No. 20S	Report No. 2005-3163, Rev. 01
Vibration test of N8E, QM1 and N2U	Report No. 274 758
EMC test of N8E & N1U	Report No. REC-E701184
Protection against corrosion and mould growth	Doc. No. 9158A
N8E/N2N1 15 V DC voltage protection network analysis	Doc. No. 9227A
Conformance test report of an Interface Converter	Report No. 46162/004/137/05
Compass safe distance test certificate	Certificate No. 453
Environmental tests according to IEC 60945 F'ourth edition 2002-08	Report No. 507276
Additional information for Report No. 507276	8 Dec 2005
EMC/ Environmental Testing of ECDIS 4000 Control Unit	Report No. 2009-3115 Rev. 01
EMC/ Environmental Testing of Maritime Computer HT C01 STD	Report No. 2009-3161. Rev. 01
Compass safe distance test certificate	Certificate No.470
Environmental test report	Report No. 913128
Compass safe testing of G84-5400 and SCU-2	Report 2010-3007, Rev.01
Mechanical test of Adveto	Report No. 279 693V2
EMC Test report	Report No. 916478-1
EMC test on CN8E, N1E and 1N4B	Report No. F917800-A
EMC test on ESIG	Report No. F917800-B
EMC test on XS Trackball	Report No. F917800-C
EMC and Environmental testing of JH19T14 MMD-AA1-AOAA	Report No. 2008-3528, Rev.01
EMC and environmental testing of JH19T12MMD	Report No. 2008-3143, rev.01
Conformance test report of LCD for use in RADAR and ECDIS, JH19T14-ADD-AAE-AABA	DOC100675-1

Place and date
HØVIK, 2010-01-27


Arve Lepsøe

END OF CERTIFICATE



