DET NORSKE VERITAS

CERTIFICATE OF CONFORMITY - EC

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment as amended by directive 2011/75/EU, 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-G-1787**

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

with type designation and item/batch number
SEAS-NAVY ECDIS 450

Manufacturer
SEASTEMA SPA
GENOVA GE, **Italy**

is, by design assessment and product verification, in accordance with Module G in the Directive and found to comply with Annex A.1, item No. A.1/4.30 and Annex B, Module G 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, **2013-05-30**
for **Det Norske Veritas AS**

Notified Body No.: **0575**

Marianne Strand Valderhaug **Head of Department**	DNV local office: **Venice**	**Jan Tore Grimsrud** **Surveyor**

NORWEGIAN ACCREDITATION

Any significant changes made to this equipment 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.

Product description

The ECDIS system istalled in “FREMM Fincantieri Hull 6145 comsists of following:

MFC1		Part no.	Serial no.
Computer	INDUSTRIAL PC, with Matrox card M9140 LP PCIe x16	HTC01STDA585	14
MONITOR 1	MONITOR 20"	JH 20T17-SSD-AAE—AOBA	100
MONITOR 2	MONITOR 20"	JH 20T17-SSD-AAE—AOBA	101
Keyboard	Industrial Membrane Keyboard with trackball - 24 function keys	35564	A76 (batch)
MFC2			
Computer	INDUSTRIAL PC, with Matrox card M9140 LP PCIe x16	HTC01STDA585	15
MONITOR 1	MONITOR 20"	JH 20T17-SSD-AAE-A0BA	102
MONITOR 2	MONITOR 20"	JH 20T17-SSD-AAE-A0BA	103
Keyboard	Industrial Membrane Keyboard with trackball - 24 function keys	35564	A76 (batch)
MFC3			
Computer	INDUSTRIAL PC, with Matrox card M9140 LP PCIe x16	HTC01STDA585	13
MONITOR 1	MONITOR 20"	JH 20T17-SSD-AAE—AOBA	104
MONITOR 2	MONITOR 20"	JH 20T17-SSD-AAE—AOBA	105
Keyboard	Industrial Membrane Keyboard with trackball - 24 function keys	35564	A76 (batch)

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

Application/Limitation

- The operating system is Microsoft Windows XP.
- The installation shall be verified and tested onboard according to Installation, setup and maintenance manual.
- The ECDIS has implemented the IEC61162-450 grouping functionallity only for the VDO and VDM sentences

Type Examination documentation

- GEM ECDIS User Manual, rev. 4.5, part number CSCI8323
- Block diagram and functional description, Doc. No.: 11110012 G01 13, Rev.1.3
- LAM Operator Manual, Doc. No.: 11110012 G01 14, ver.1
- Acceptance test report, Doc. No.: 11110012 A08 12, rev.02, signed 03.05.13
- EMC AND ENVIRONMENTAL TESTING OF MARITIME COMPUTER HT C01 STD, Doc. No.: 2010-3243, rev. 02
- EMC AND ENVIRONMENTAL TESTING OF JH 20T17, Doc. No.: 2008-3511, Rev. 02
- IEC60945 Test Report Keyboard VE035564, Doc. No.: TesLab 10A166F, rev. 1.20

Tests carried out

- Performance testing, IEC 61174 Ed. 3.0 (2008)
- Environmental testing, IEC 60945 (2002)
- Serial interface testing, IEC 61162 -1 ed. 4 (2010)
- Serial interface testing, IEC 61162 – 450 (2011)

Marking of product

- The Manufacturer and Type Designation to be applied to the equipment in a clearly visible location and in addition the equipment shall be marked with serial number, safe distance to magnetic compass, power consuption and/or supply voltage

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.