

**TYPE APPROVAL CERTIFICATE****This is to certify:****That the Conning Display**with type designation(s)  
**VisionMaster FT**

Issued to

**Northrop Grumman Sperry Marine B.V.**  
**NEW MALDEN SURREY, United Kingdom**

is found to comply with

**DNV GL rules for classification – Ships****IMO Res. A.694(17) General requirements for shipborne radio equipment forming part of the global maritime distress and safety system (GMDSS) and for electronic navigational aids**  
**MSC.191(79) Performance standards for presentation of navigation-related information on shipborne navigational displays****Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**This Certificate is valid until **2021-05-24**.Issued at **Høvik** on **2016-06-13**DNV GL local station: **Southampton**Approval Engineer: **Steinar Kristensen**for **DNV GL**

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**Jan Tore Grimsrud**  
**Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Job Id: **262.1-021346-1**  
 Certificate No: **TAA00000DH**  
 Revision No: **1**

## Product description

Vision Master FT Conning Display is a part of a Multi Function Display (MFD) consisting of the below modules.

### Hardware modules:

Unit	Description	Type Number	Comment
Computer	Processor unit	65901AX	<i>X=N or T or E or C</i>
Display	LED display unit, 25.5 inch	65926L	
Interface Unit	PCIO Interface Unit	65900AX	<i>X= A or B</i> 9x RS422/RS232 input 6x RS422/RS232 outputs <sup>*)</sup>
Control Panel	HMI control	65903AX or 65903KX	<i>X=F or G or H</i>

<sup>\*)</sup>Transmission of NMEA messages is not a feature within the Conning Display

All units listed above are to be installed in a protected environment, i.e. indoor.

### Software modules

- | Software modules    | Version    |
|---------------------|------------|
| • Operating System: | Windows XP |
| • VisionMaster FT   | 8.0.x      |

## Application/Limitation

- The system is to be installed as specified in equipment manuals.
- The "Ownship" view in the VisionMaster FT Conning Display is found to comply with requirements for Conning Information Display for the additional class notations NAUT(AW) and NAUT(OSV) as specified in the DNV GL Rules Pt.6, Ch.3, Sec.3 and Sec.5 (Jan 2016).
- The VisionMaster FT Conning Display has been tested in a MFD system with functions for ECDIS and Radar.

## Tests carried out

- |   |  |
|---|--|
| • Environmental testing:                  | IEC 60945 (2002) incl Corr.1 (2008)              |
| • Serial interface testing:               | IEC 61162-1 (2010) and IEC 61162-2 (1998)        |
| • Presentation of navigation information: | IEC 62288 (2014)                                 |
| • Performance testing:                    | Type Approval program 847.60 for Conning Display |

## Type Approval documentation

DNV GL No	Document Id.	Rev.	Description
40	NML61162RPT	1	Report: NGSM, Test report for IEC 61162 Interface Tests
37	75931934	1	Report: Tüv Süd, Environmental test report for PCM4-Q87 Marine Computer in VMFT 340 Console
36	SP 5P05969-1	2015-10-30	Report: SP, IEC 60945 test report for PCM4-Q87 Marine Computer
31		1	Report: NGSM, Conning Information Display Test Report
28	TSTR1201598	2012-07-03	Report: QinetiQ, EMC and environmental test report for ISIC 25,5 Inch Monitor
27	TSTR1102226	2011-08-22	Report: QinetiQ, IEC 61174 (2008), IEC 62388 (2008), IEC 60945 (2002) and IEC 62288 (2008) test report for DuraMON26WS display
24	TSTR1001283	2010-04-26	Report: QinetiQ, IEC 61174 (2008) and IEC62288 (2008) test

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<b>DNV GL No</b>	<b>Document Id.</b>	<b>Rev.</b>	<b>Description</b>
			report for VisionMaster FT ECDIS with 26" Monitor
23	TSTR1000308	2010-10-22	Report: QinetiQ, Environmental test report for VisionMaster FT Client Server Radar
21	TSTR0900216	1	Report: QinetiQ, IEC 62288 (2008) test report for VisionMaster FT ECDIS
19	TC0905317	2	Report: QinetiQ, VisionMaster Vibration test report for G43 Processor and 25.5 Display
18	E12140.01	2012-08-01	Report: Nemko, Color verification test report for MD 26 KM05 monitor
14	DANAK-1910681-B	2010-01-25	Report: Delta, EMC and environmental test report for PCM4-G43 marine computer
12	DANAK-1912564	2012-11-02	Report: Delta, EMC and environmental test report for PCM4-H77 marine computer
11	DANAK-1911472	2011-07-18	Report: Delta, EMC and environmental test report for DuraMON 26 WS monitor
9	CR0607592-1.0	2006-12-06	Report: QinetiQ, EMC and Environmental test report for VisionMaster FT Radar
8	75906944	1	Report: TÜV SÜD, EMC test report for MRD26 26" LCD Marine Monitor
5	65900011V2-14	A	Manual: Northrop Grumman Sperry Marine, VisionMaster Ships Manual- Vol 2
4	65900011V1-14	A	Manual: Northrop Grumman Sperry Marine, VisionMaster Ships Manual- Vol 1
3	5006934	2	Report: Northrop Grumman Sperry Marine, ECDIS Monitor LCD Test Procedure and Report- ISIC 26in Monitor

### **Marking of product**

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

### **Periodical assessment**

A retention survey is to be performed at least once every second year, and again upon renewal of this certificate.

The scope of the retention/renewal survey is to verify that the production quality conditions stipulated for the type approval are complied with and that no alterations are made to the product design or its components and/or materials without appraisal by the Society.