



Lloyd's
Register

Notified Body authorised by the MCA



Maritime &
Coastguard
Agency

EC TYPE EXAMINATION (MODULE B) CERTIFICATE

This is to certify that:

LLOYD'S REGISTER VERIFICATION LIMITED (LRV), designated as a "notified body" under the terms of the Merchant Shipping (Marine Equipment) Regulations 2016 (S.I. 2016 No.1025), did undertake the relevant type approval procedures for the equipment identified below which was found to be in compliance with the essential Navigation equipment requirements of Marine Equipment Directive (MED) 2014/90/EU and Commission Implementing Regulation (EU) 2017/306 indicating design, construction and performance requirements and testing standards for marine equipment, subject to any conditions in the Design Appraisal Document attached hereto.

Manufacturer (Applicant) Address	Northrop Grumman Sperry Marine BV 118 Burlington Road New Malden Surrey, KT3 4NR United Kingdom (UK)
Reference	Regulation 2017/306
Regulation Item (No & Item designation)	MED 4.30 ELECTRONIC CHART DISPLAY AND INFORMATION SYSTEM (ECDIS) WITH BACKUP, AND RASTER CHART DISPLAY SYSTEM (RCDS)
Product Type	VisionMaster FT, ECDIS Hardware component parts of the equipment above are listed in the attached design appraisal document. Software version: - 9.0.0
Product Description	Electronic Chart Display And Information System (ECDIS) Also tested as Backup ECDIS, and with Raster Chart Display System (RCDS)
Specified Standards	IMO Resolutions: A694 (17), MSC191(79), MSC232(82), MSC.36 (63) - 13, MSC.97 (73) - 13 and SN.1/Circ.266. IEC 60945 (2002) incl. IEC 60945 Corr. 1 (2008) IEC 61162-1 Ed4.0 (2010), IEC 61162-2 Ed1.0 (1998) and IEC 61162-450 (2011) IEC 61174 (2008) IEC 62288 Ed.2.0 (2014-07)

The attached Design Appraisal Document (schedule) forms part of this certificate.

This certificate remains valid unless cancelled or revoked, provided the conditions in the attached schedule are complied with and the equipment remains satisfactory in service.

Date of issue 1 August 2017 Expiry date 22 June 2019

Certificate No. MED 1400004/M3 Signed



Sheet No. 1 of 6 Name P.A. Huntley-Hawkins
For and on behalf of Lloyd's Register Verification
LRV EC Distinguishing No. 0038

Note:

This certificate is issued under the authority of the MCA.

This certificate is not valid for equipment; the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify the notified body named on this certificate of any modification or changes to the equipment in order to obtain a valid Certificate.

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Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as the 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.



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The undernoted documents have been appraised for compliance with the relevant requirements of International Conventions and European Union legislation for the EC Type Examination of Marine Equipment for use on Merchant Ships Registered in the European Economic Area.

This Design Appraisal Document (schedule) forms part of the Certificate.

HARDWARE DETAILS

Schedule 1 – Type numbers of processor and display unit.

Processor – 65901AN, 65901AP, 65901AT, 65901AU and 65901AE (Dual)

Display – 65926H, 65926L (25.5") or 65823A, 65923C (23.1") or 65817G (19.0")

PCIO Interface Unit – 65900AA or 65900AB

Control Panel – 65903AF, 65903AG, 65903KF or 65903KG

Security Device – 32SDR003, 32SDR004, 32SDR005 or 32SDR006

Integrated Tabletop Display – 65920BNAF, 65920BNAG, 65920BNBF or 65920BNBG, 65920BTAF, 65920BTAG, 65920BTBF or 65920BTBG

NOTES

1. An uninterpretable power supply must be incorporated in the system, the Sperry part number 65932721, 65932722 or 65932723 may be used
2. The 32SDR005 Multi-node security device allows operation of an integrated multi display ships bridge. A security string defines the product type on all nodes for a particular vessel's bridge operating plan. The product type must be set to ECDIS, ECDIS with Radar overlay or Total Watch as appropriate
3. The 32SDR006 Total Watch security device enables operation as a Multi-function workstation and allows the operator to switch between Chart Radar, ECDIS and conning display. This certificate only applies when the mode is set to ECDIS for a Total Watch system
4. This approval remains valid for Minor software amendments, as allowed by the 9.x.x numeric format, where written details of the modifications have been submitted to and accepted by the Notified Body
5. The ECDIS was tested with official IHO ENC Test data using the Seven C's chart engine and with SENC data supplied as part of C Map chart licensing. ARCS chart test data was used to check RCDS charts
6. The VisionMaster Chart Radar as defined in certificate numbers MED 1400006/M3 and MED 1400007/M3 was also tested as a back-up ECDIS
7. Image transfer to a Voyage Data Recorder via IEC 61162-450 Interface
8. Conformance with IHO S-52 'Specifications for Chart Content and Display Aspects of ECDIS' Edition 6.1.(1) and IHO S-52 Annex A 'IHO ECDIS Presentation Library' Edition 4.0.(1) was demonstrated using IHO S-64 'Instruction Manual for the use of IHO Test Data Sets in ECDIS' Edition 3.0.1

Schedule 2 – Ancillary Units

Auxiliary PCIO Interface Unit for Dual – 65940AA

Network Serial Interface – 4802181



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External Serial Interface - 4801162
Course Mode Joystick - 4303153
Analogue Interface Assembly - 1982776
Network switch - RA00009746, RA 00004325 or RA 00014423
Kit Format Units - 65900614, 65900615, 65900667, 65900635 and 65900625
Digital Interface Unit - 65932605

APPROVAL DOCUMENTATION

QINETIQ/D&TS/SES/TC0703744	30.03.2007
QINETIQ/MS/EES/TC1001181	26.03.2010
Change Note 65901/075	14.03.2012
Change Note 65920/027	30.05.2013
Change Note JLR034 Issue 1	01.08.2016
Change Note JLR037 Issue 1	28.10.2016
Change Note JLR039 (SC4 EEPROM) Issue 2	14.03.2017
Change Note JLR042	15.06.2017
Change Note JLR043	26.06.2017
VisionMaster Technical File	10.06.2015
VMFT V7.0 Impact Assessment + Results	18.02.2015
VMFT V.8.0 Impact Assessment + Results	15.04.2016
VMFT V9.0 Impact Assessment + Results	20.03.2017
ECDIS User Guide, 65900012-11 Rev. A	-
Supplementary Features User Guide, 65900014-7 Rev A	-
VisionMaster Ships Manual 65900011-15 Rev A	-
DNV-GL Type Approval Certificate 20513-11HH	03.11.2016
Hatteland Display, HD 26T22 MMD - IEC 60945 & IACS E10 Statement DOC205830-1-1-Rev. 3	Undated

TEST REPORTS

DANAK-196393	04.09.2002
BO613465/1	24.12.2004
DNV 2005-3112	14.03.2005
ECDIS Monitor, LCD, Test Procedure and Report	13.04.2005
DANAK-198181	23.12.2005
DANAK-198236	20.01.2006
JA 340-8596-4	16.03.2006
JA 340-8596-2	08.05.2006
JA 340-8596-1	14.07.2006
MET EMC19618-EN60945	28.08.2006
TL1016	30.10.2006
QINETIQ/D&TS/SS/CR0607592/1.0	06.12.2006
Sperry Marine Report 5000657	28.06.2007



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<u>TEST REPORTS - Continued</u>	
BSH 46162/0040380/07	12.09.2007
DANAK-198899 Revision 2	10.12.2007
QINETIQ/EMEA/iX/CR070194/Issue 1.0	20.12.2007
QINETIQ/EMEA/iX/CR0802757/Issue 1.1	19.02.2008
QINETIQ/EMEA/iX/CR0709724/2	06.03.2008
DNV 2008-3142	11.03.2008
DNV 2008-3143	11.03.2008
QINETIQ/MS/EES/TSTR0801342/1	30.07.2008
DANAK-1910255	18.08.2008
QINETIQ/MS/EES/TSTR0801840/1	02.09.2008
DNV 2008-3464	18.09.2008
QinetiQ/MS/EES/TC0802918	17.10.2008
QinetiQ/MS/EES/TC0803242	14.11.2008
QinetiQ/MS/EES/TSTR0900216/1.0	29.01.2009
QinetiQ/MS/EES/TSTR0900779/1.0	24.02.2009
QinetiQ/MS/EES/TSTR0902273/1	03.06.2009
TL1316	29.06.2009
QINETIQ/MS/EES/TC0905317	14.12.2009
QINETIQ/MS/EES/TSTR0903808/3.0	14.12.2009
TUV 75906944 Report 01 Issue 1	14.01.2010
DANAK-1910681 Revision B	25.01.2010
QinetiQ/MS/EES/TSTR1001283/DRAFTB	26.04.2010
DNV 2010-3124 rev. 2	13.08.2010
QINETIQ/TEG/TECS/TSTR1000030	19.08.2010
TUV 75909781 Report 02 Issue 1	24.08.2010
QINETIQ/TEG/TECS/TSTR1000308	22.10.2010
QINETIQ/TEG/TECS/TC1100272	02.02.2011
QINETIQ/TEG/TECS/TSTR1100065	28.02.2011
QINETIQ/TEG/TECS/TSTR1101456/1.0	04.05.2011
DANAK 1911472	18.07.2011
QINETIQ/TEG/TECS/TSTR1102226	22.08.2011
QINETIQ/MS/WD/TSTR1201598	03.07.2012
NEMKO E12140.01	01.08.2012
DANAK 1912564	02.11.2012
TUV 75919870 Report 04 Issue 1.0	April 2013
TUV 75921754 Report 01 Issue 1.0	April 2013
TUV 75931934 Report 01 Issue 1.0	January 2014
SP4P07869	05.12.2014
SP4P00022-2	06.05.2014
SP5P05969-1	30.10.2015
NEMKO 2.54678	12.03.2014



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DNV 2013-3038	03.04.2013
TR-V9-NML-001 (PresLib 4.0 (.1) Test Report - C-MAP) Issue 4	19.04.2017
TR-V9-NML-002 (PresLib 4.0 (.1) Test Report - SevenCs) Issue 3	19.04.2017
SP6P03819-2	13.09.2016
APPLICA Test and Certification, 21009, rev 0	10.02.2017
Hatteland Display, DOC102352-4, rev 2	03.04.2017
Hatteland Display, DOC102351-1, rev 2	05.04.2017
Hatteland Display, DOC102352-3, rev 1	11.11.2016

CONDITIONS OF CERTIFICATION

1. Production items of the subject equipment are to be manufactured in accordance with either an approved Production Quality Assurance system (Module D), a Product-Quality assurance system (Module E) or a Product Verification Process (Module F). The wheelmark cannot be affixed to the product until a conformity assessment module is in place.
2. Each item, batch or lot of the equipment is to be issued with a "Declaration of Conformity" and have the "Mark of Conformity" affixed after a conformity assessment module is in place.

SOFTWARE VERSIONS

9.0.0

STANDARDS NOT APPLICABLE

The following MED specified standards do not apply to this product:

IEC 61162-3 ed1.2 Consol. with am1 ed. 1.0 (2010-11) and am2 ed. 1.0 (2014-07)
IEC 61162-460 ed1.0 (2015-08)



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PLACE OF PRODUCTION

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