



NOTIFIED BODY
No 0191

CERTIFICATE OF TYPE APPROVAL

(EC Certificate of Type Examination - Module B)

(Marine Equipment Directive - 96/98/EC, as amended*1)

Applicant:-

Northrop Grumman Sperry Marine B.V.
118 Burlington Road, New Malden
Surrey, KT3 4NR
United Kingdom

Manufacturer:-

Northrop Grumman Sperry Marine B.V.
118 Burlington Road, New Malden
Surrey, KT3 4NR
United Kingdom

This is to certify that the applicant has submitted details of a:-

**Electronic Chart Display And Information System (ECDIS)
With Backup, and Raster Chart Display System
(COMMISSION DIRECTIVE 2011/75/EU – ITEM A.1/4.30)**

Of system type known and designated as:-

VisionMaster FT, ECDIS

(Comprising component parts and having technical characteristics shown in schedule 1 & 2)

and that these have been assessed, tested and when used in a combination of component parts as described in the attached schedules, is CERTIFIED as complying with the relevant parts of:

IEC 61174 : 2008, "Electronic Chart Display And Information System (ECDIS)"

IEC 60945 : 2002 "General Requirements for Marine Navigation Equipment" (Inc. Corrig'm1:2008)

IEC 62288 : 2008 "Presentation of navigation-related information on shipborne navigational displays"
(being testing standards listed in column 5 of Annex A.1 of Directive 2011/75/EU for Item 4.30)

Note: IEC 62288:2008 covers the presentation standard of all navigational equipment and appropriate assessment for ECDIS equipment has confirmed standards required for IMO Resolution MSC.191 (79).

It is also RECOGNISED that the equipment conforms to performance standards not inferior to those adopted by the International Maritime Organisation, and which are contained in Resolution MSC.232(82), Resolution MSC.191(79) and Resolution A694(17).

SIGNED:

R A Sharp

Authorised Signatory

DATE of ISSUE: 22nd November 2011

DATE of EXPIRY : 21st July 2014

Certificate Number: QQ-MED-01/08-01R5

EU/USCG Mutual Recognition Agreement
Council Decision 2004/425/EC

This equipment category is not yet covered by the MRA

This Certificate is Valid until expiry date shown, subject to the standard conditions of issue printed on the attached schedule



QinetiQ
Cody Technology Park
Ively Road, Farnborough
Hampshire. GU14 0LX

Maritime and Coastguard Agency
The MCA is an Executive
Agency of the Department for
Transport

Certificate of Type Approval - Schedule 1

VisionMaster FT ECDIS

The applicant declared that the following units when combined form an operational Marine ECDIS equipment. The units below have been assessed & tested and satisfactory details of these units were included in the technical file.

MAIN UNIT	*1, 2, 10, 11		
19" LCD Monitor (Deck Console)		65919C or 4302792-1	*3
or 19" LCD Monitor (Kit form)		65817G or 4301665-1	*4
or 19" LCD Monitor (Desktop)		65919T with 65919605	
or 23" LCD Monitor (Kit form)		65823A or 4301009-1	*4
or 23" LCD Monitor		65923C, 65923E, 4302482-1 or 4302482-2	*3
or 25.5" LCD Monitor	65926E		*2
or 27" LCD Monitor (Kit form)		65927A or 65927C or 4304219-1	*4
PROCESSOR - ECDIS		65901AC, 65901AD, 65901AE, 65901 AN or 65901AT	*3,4
VMFT PCIO Interface Unit		65900AA or 65900AB	*3,4
CONTROL PANEL (19")		65909AF or 65909AG	
or CONTROL PANEL (Kit Form)		65903KF 65903KG, or 65903KH	*4
or CONTROL PANEL (23")		65903AF 65903AG or 65903AH	*3
19" Integrated Tabletop Display		65920 ATAF, ATAG, ATBF or ATBG	*11
		65920 ANAF, ANAG, ANBF or ANBG	*11
		65920 BTAF, BTAG, BTBF or BTBG	*11
		65920 BNAF, BNAG, BNBf or BNBG	*11
SECURITY DEVICE (ECDIS)		32SDV003, 32SDV004, 32SDR003 or 32SDR004	*6
or SECURITY DEVICE (Multi-node)		32SDV005 or 32SDR005	*6,7,8
or SECURITY DEVICE (Total Watch)		32SDV006 or 32SDR006	*6,7
SOFTWARE:		Version	
MAIN SYSTEM SOFTWARE		5.2.0	*5

----- End of List -----

NOTES:-

- 1 A second ECDIS composed of the main unit above is needed to form a back-up system if this is required by carriage requirements and the Administration concerned.
- 2 An Uninterruptible Power supply must be incorporated. Sperry Marine contract conditions for the installation allow for this to be provided by the shipyard or the Sperry PN 4300749-§ UPS may be used.
- 3 These units integrate with the deck mount console (see schedule 2) to form a stand alone deck mount ECDIS system.
- 4 These units can also be provided in kit form for inclusion in a shipyard navigation console.
- 5 This approval remains valid for subsequent Minor software amendments, as allowed by the 5.x.x format (x = a numeral), where written details of any such modifications have been submitted to and accepted by the approvals authority.
- 6 The appropriate security device is selected from these three options.
- 7 "Total Watch" is the Sperry Marine name for Multi-Function Workstation. This additional facility enables the operator to 'hot switch' between Chart Radar, ECDIS and other functions, which all share identical hardware elements. Such operation may be subject to 'Class' or 'Flag' installation approval for a particular vessel's bridge operating plan. The Approval status conferred by this certificate only applies when the operation mode is set to 'ECDIS'.
- 8 The Multi-node security device allows operation as part of a integrated multi-display ship's bridge. Sperry Marine will also provide a security string to define product type on all network nodes. The product type must be set on commissioning to ECDIS, ECDIS with Radar Overlay or Total Watch operation.
- 9 A modular extension is available to form a 'Track Control System' in conjunction with the Sperry NAVIPILOT 4000 Heading control Autopilot, this is separately certified. Please refer to certificate number QQ-MED-20/08-01Rn
- 10 The ECDIS was tested with Official IHO ENC Test Data using the Seven C's chart engine, and with SENC data supplied by Jeppesen (C-Map) using the C-Map chart engine. It was also found to correctly handle various unofficial charts with the appropriate warnings and symbology. RNC charts were tested using UKHO supplied "ARCS" chart test data.
- 11 The 19" Integrated Tabletop Display contains a monitor, processor, PCIO and control panel but requires a security device as in note 6.

Technical characteristics are on page 3
Conditions of Issue of this certificate are printed on page 4.

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Certificate Number **QQ-MED-01/08-01R5**

Certificate of Type Approval - Schedule 2

VisionMaster FT ECDIS

The applicant declared that the following units may be added to the basic ECDIS systems illustrated in schedule 1. These units have been assessed & tested in conjunction with various Sperry Marine, VisionMaster Radar and/or ECDIS systems, and satisfactory details are included in the technical files.

ANCILLARY/ OPTIONAL UNITS:-

Monitor Chassis	65919605 or 65923605	*1
Deck mount Pedestal	65923665 or 65923675	*1
Plinth (for Pedestal above)	65923200 or 65923201 or 65923202	*1
Network Serial Interface	4802181-§	*2
Network Switch	4305049-1, 4305049-2, 4305049-4 or 4301770-§	*2
Auxiliary PCIO unit	65940AA	
Power Supply (+5/12 VDC)	4303090-1	
Serial Interface (External Serial Package)	4801162-§	*2
Joystick (course mode)	4303153-3	
Serial Interface (Internal card)	4303838	
Analogous Interface Assembly	1982776-§	*2

MODULAR UNITS :-

USB Port	65900635	*3
Trackerball	65900614 or 65900615 or 65900650	*3
Control Panel	65900667 or 65900668	*3
On/Off Switch	65900625	*3

----- End of List -----

NOTES:-

- 1 Standard items when used together with LCD Monitor, ECDIS processor, PCIO interface unit and Control Panel, from schedule 1, to form integrated Deck mount console ECDIS, Plinths used for display height adjustment.
- 2 The symbol § is shown where a number suffix is used to indicate a minor variant.
- 3 These individually identified units are used with Kit Form Processors and Monitors.

Technical Characteristics

PARAMETER	PROVISION	COMMENT
PRESENTATION DISPLAY TYPE	27" Colour LCD 25.5" Colour LCD 23.1" Colour LCD 19" Colour LCD	IEC 62288:2008 Category :- Full operational ECDIS display Dedicated Keyboard, Trackerball and on-screen controls allow quick & easy control functions and data entry.
DISPLAYED CHART AREA	455x 329mm 430x 323mm 440x 320mm 376x 275mm	27" Widescreen Display (LCD). 25.5" Widescreen Display (LCD). 23" standard (4:3) Display (LCD). 19" standard (4:3) Display (LCD).
IEC 61162 series SERIAL (NMEA) PORTS	Listener 6 (IEC61162-1) Talker 4 (IEC61162-1) Listener 3 (IEC61162-2) Talker 2 (IEC61162-2)	Conformity to IEC 61162-1:2010 and IEC 61162-2:1998. The serial data ports can be extended by the External Serial Package (ESP) by 16 additional ports (PN 4801162-§)
RADAR Video (Radar overlay)	1 Channel	When using 65901AT or 65920ATxx Processor which has an integrated Radar video interface. Tested with VMFT, X and S Band transceivers.
RADAR Video (Radar overlay)	2 Channel	When using 65901AD or 65901AE Processor, which has two integrated radar video interfaces. Tested with VMFT, X and S Band transceivers.
Back-Up Arrangements	Via Ethernet link to 2nd ECDIS	A second VisionMaster ECDIS system running software as listed above can be used as back-up.
TEMPERATURE RANGE Protected & IEC 60945 CLASS Exposed	-15°C to +55°C. -25°C to +70°C	-- All units -- None
POWER SOURCE	100-240V AC, 50/60Hz	Provision of UPS unit to provide for short term operation and controlled shut-down on power failure is an ECDIS installation contract requirement.

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Certificate Number **QQ-MED-01/08-01R5**

Certificates of Type Approval Conditions of Issue

1. Each Certificate will be used in its entirety and not reproduced in part.
2. The choice of Notified Body under the Marine Equipment Directive is that of the Manufacturer/Applicant and the following conditions apply whilst the QinetiQ Notified Body fulfils that role.
This certificate remains fully valid all the time the conditions stated below remain true, Should any change a new Notified Body should be consulted to ascertain their standard conditions appertaining to new or continued MED certification.
3. This certificate remains valid until the date shown (normally 5 years) unless cancelled or revoked, provided:-
 - i) the design and manufacture remain unmodified from the specimen tested and recorded in the Technical Construction File;
 - ii) any conditions contained in the schedule are complied with;
 - iii) Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply;
 - iv) and, the equipment remains satisfactory in service.
4. The mark of conformity (Wheelmark) may only be affixed to the equipment listed on this certificate and a manufacturer's Declaration of Conformity issued when the Production Quality Assurance requirements laid down in Annex B, of the Directive (96/98/EC) is fully complied with and controlled by a written inspection agreement with a Notified Body.
This certificate alone gives no authority to Affix the Wheelmark or use the QinetiQ Notified Body Number (0191) in combination with it. The manufacturer is responsible for ensuring that Production Quality Assurance requirements & appropriate certification renewal and periodic surveillance are maintained.
5. USCG Approval Number: A Mutual Recognition Agreement (MRA) on marine equipment exists between the European Commission and the US Coastguard but only applies to equipment types included in the listing of marine equipment annexed to the MRA. For included equipment a USCG Approval number may be issued and can be found under the MED certificate number on the first page and should be used on the main identity label of the equipment. Radio and Radar equipment continues to need separate or additional approval by the USA FCC.
6. This certificate does not confer any approval status to this equipment other than defined by, and tested according to the specifications listed on sheet 1.
7. The labeling requirements of IMO Resolution A694(17) shall be met. Descriptions of each unit of apparatus forming part of the equipment will be as given on this Certificate. Each unit of equipment will be marked with the minimum safe distance at which it should be mounted from a standard and steering magnetic compass.
8. No unit of apparatus shall be advertised or labeled as "approved" or "certified" on behalf of the Maritime and Coastguard Agency, the Department of Transport or the QinetiQ Group in any sense other than that it is a type that has been assessed as satisfactory against the specification;
9. The manufacturer must advise QinetiQ or another MED Notified Body of any intended changes to the design or production of the equipment which might affect the equipment performance.
10. Minor Modifications to the equipment will be considered on a case-by-case basis. The Notified Body will review any factory test results, in consultation if necessary, with the test facility that conducted the original Type Approval testing on the equipment. The Notified Body will advise the manufacturer if any further testing is required to maintain valid certification.
11. If an equipment manufacturer wishes to have the type approved equipment designated under alternative names (e.g. agent/distributor's name and model number), a separate application should be made to a MED Notified Body.

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