

ZERTIFIKAT ◆ CERTIFICATE ◆ CERTIFICADO ◆ СЕРТИФИКАТ ◆ 認証証書 ◆



Marine Equipment Directive Module B Type Examination Certificate

This is to certify that TÜV SÜD BABT did undertake the relevant type approval procedures for the equipment identified below which was found to be in compliance with the Navigation requirements of Marine Equipment Directive 96/98/EC as amended by Commission Directive 2012/32/EU and that the equipment of

Kelvin Hughes Ltd

of

Voltage
Mollison Avenue
Enfield
Middlesex
EN3 7XQ
United Kingdom

known as

MantaDigital™ 22" or 26" Widescreen ECDIS

conforms to the relevant requirements for the following equipment as listed in Marine Equipment Directive Annex A.1:

Annex A.1/4.30 Electronic Chart Display and Information System (ECDIS) with backup, and Raster Chart Display System (RCDS)

as defined in Commission Directive 2012/32/EU

on the basis of the Technical Data and information detailed in the Annex to this certificate.

Signed: 

Issue Date: 24 July 2014

On Behalf of TÜV SÜD BABT

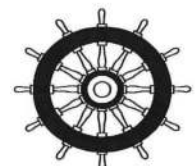
Number: BABT-MED001078

Issue: 02

This certificate has been issued in accordance with the Certification Regulations of TÜV SÜD BABT (Notified Body Number 0168) and constitutes page 1 of the combined Certificate and Annex

This certificate is valid from 24 July 2014 until not later than 23 July 2019

The Conditions for the validity of this certificate are listed in the Annex.
For further details related to this certification please contact BABT@tuv-sud.co.uk



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TÜV SÜD BABT • TÜV SÜD Group
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Marine Equipment Directive Module B Type Examination Certificate

Description of Equipment:

Shipborne Electronic Chart Display and Information System (ECDIS) (MED Item A.1/4.30) .

Model: MantaDigital™ 22" or 26" Widescreen ECDIS

		22"			26"		
		Pedestal	Desktop	Kit Form	Pedestal	Desktop	Kit Form
System Components:							
MantaDigital 26" Display Navigation Pedestal <small>Note 1, 2, 3</small>	MDD-A1-26				X		
MantaDigital 26" Display Navigation Pedestal Basic <small>Note 1, 3, 4</small>	MDD-A1-2-26				X		
Naval MantaDigital 26" Display Navigation Pedestal <small>Note 1, 3, 9</small>	MDD-A1-26-ABFA				X		
MantaDigital 26" Desktop Display (incorporating MDD-A101) <small>Note 3</small>	MDD-A30-26					X	
MantaDigital 26" Console Display	MDD-A20-26						X
MantaDigital 22" Display Navigation Pedestal	MDD-A1-22	X					
MantaDigital 22" Display Navigation Pedestal Basic	MDD-A1-2-22	X					
Naval MantaDigital 22" Display Navigation Pedestal <small>Note 1, 3, 9</small>	MDD-A1-22-ABFA	X					
MantaDigital 22" Desktop Display (incorporating MDD-A101)	MDD-A30-22		X				
MantaDigital 22" Console Display	MDD-A20-22			X			
MantaDigital Navigation Processor <small>Note 2</small>	MDP-A1		X	X		X	X
Naval MantaDigital Navigation Processor <small>Note 9</small>	MDP-A1-AAFA		X	X		X	X
MantaDigital Navigation Processor Basic <small>Note 4</small>	MDP-A1-2	X	X	X	X	X	X
MantaDigital Trackerball and Keyboard <small>Note 3</small>	MDD-A101			X			X

Software:	Code Identity	Version <small>Note 5</small>
MantaDigital Core Software	ZM-2144	2.8.1
Naval MantaDigital Core Software <small>Note 9</small>	ZM-2565	1.9.3
Display interface Firmware	ZM-2007	1.6
Transmitter Interface FPGA	ZM-2160	1.80
Systems interface Firmware	ZM-2008	1.6



Description of Equipment Continued – Ancillary & Optional Units:

The applicant declared that the following units may be added to the basic ECDIS systems illustrated on page 2. These units have been assessed & tested in conjunction with MantaDigital™ and SharpEye™ series radar systems.

ANCILLARY UNITS:-

MantaDigital™ Trackerball	MDD-A110
MantaDigital™ Trackerball & pencil tray	MDD-A100
MantaDigital™ Trackerball & Keyboard	MDD-A101
MantaDigital™ Trackerball & MCI Panel	MDD-A102
MantaDigital™ Remote Keyboard	MDD-A130
Ergonomic Trackerball (Ergopod, right handed)	NRR-A18
Ergonomic Trackerball (Ergopod, left handed)	NRR-A18-2
Serial Interface Module (provides 8 additional ports)	FSD-A198 ^{Note 6}
Dual DNC Unit	FSD-A10 ^{Note 7}
Network Audio & Video Control Unit	FSD-A13 ^{Note 7}
NTI Audio & Video Switch Matrix	IT-SM-8‡-AV-LCD ^{Note 7, 8}

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

NOTES:-

- 1 Fully integrated Deck Mount Pedestal unit incorporating Processor Unit, Trackerball and Keyboard.
- 2 This forms a Multi-Function workstation. This means the operator may 'hot switch' between Radar, Chart Radar, ECDIS and Conning Display (All share identical Hardware elements) as limited and controlled by a Kelvin Hughes supplied 'Security Dongle'. The approval status conferred by this certificate only applies when the operation mode is set to ECDIS.
- 3 The trackerball unit integrated into the control area may be replaced with other control options listed in with the ancillary units.
- 4 This 'Basic' Processor model does not have Radar Display capability and so only provides ECDIS, Back-up and Route Planning.
- 5 This approval remains valid for equipment including subsequent minor software amendments which have been formally accepted in accordance with the Certification Regulations of TÜV SÜD BABT.
- 6 This option is an internal module installed inside the MantaDigital™ processor units.
- 7 These items form a display/control interconnection system and may be used to form a configurable workstation system between MantaDigital processors and displays. The exact configuration enabled for a system is fixed on commissioning in accordance with an agreed ships operating plan.
- 8 The ‡ is a numeral in the range 2 to 8 and denotes the number of display units which can be included in the interconnection system.
- 9 The Naval MantaDigital systems are only assessed for operation in ECDIS mode and the ZM-2565 software is not approved for operation in the standard commercial MantaDigital™ variants.

Compliance Matrix For MED Item A.1/4.30

IMO Resolutions	International Testing Standards	
Resolution MSC.232(82)	IEC 61174:2008	Maritime navigation and radiocommunication equipment and systems - Electronic chart display and information system (ECDIS)
Resolution MSC.191(79)	IEC 62288:2008	Presentation of navigation-related information
Resolution A694(17)	IEC 60945:2002	General Requirements for Marine Navigation Equipment" (Inc. Corr1:2008)
	IEC 61162-1:2010	Digital Interfaces – Part 1, single talker
	IEC 61162-2:1998	Digital Interfaces – Part 2 High Speed interface



Manufacturer:

Name: Kelvin Hughes Ltd
Address: As Holder.

Relevant Technical Documentation

Manuals:

MantaDigital operational manual (User) HBK-4001-1, Issue 3, 2012-04-13
MantaDigital Installation manual (Technical) HBK-1001, Issue 4, 2014-01-02
MantaDigital termination & commissioning HBK-2001, Issue 4, 2013-02-04

Technical Document File Indexes:

FSD-K10 Revision 2, 2014-05-19	MDD-K101 Revision 2, 2014-05-19	MDP-K1-2 Revision 2, 2014-06-11
FSD-K13 Revision 2, 2014-05-19	MDD-K102 Revision 2, 2014-05-19	MDD-K1-2-26 Revision 2, 2014-06-10
FSD-K198 Revision 1, 2012-09-05	MDD-K110 Revision 2, 2014-05-09	MDD-K1-22 Revision 3, 2014-05-19
MDD-K1-26 Revision 4, 2014-06-10	MDD-K130 Revision 2, 2014-05-16	MDD-K1-2-22 Revision 2, 2014-06-11
MDD-K20-26 Revision 3, 2014-05-16	MDP-K1, Revision 4, 2014-06-11	MDD-K30-22 Revision 3, 2014-06-11
MDD-K30-26 Revision 4, 2014-06-11	NNR-K18 Revision 1, 2012-09-06	MDD-K1-2-22 Revision 1, 2014-06-11
MDD-K100 Revision 2, 2014-05-19	NNR-K18-2 Revision 1, 2012-09-06	-

The above being comprehensive listings of documentation relevant to type examination: including:-Test reports and details of Approved Hardware defining Overall Build Level and including Circuit diagrams, technical drawings and Parts listings (BoM).

Additional Information:

The products listed on this certificate were originally assessed and certified by QinetiQ under Notified Body number 0191. This certificate replaces QinetiQ Certificate Number QQ-MED-09/11-01R.

Conditions of Validity

This issue of the Annex to the referenced Marine Equipment Module B Certificate relates to Issue 2 of the Certificate.

This certificate will not be valid if the manufacturer makes any changes or modifications to the approved equipment, which have not been notified to, and agreed with TÜV SÜD BABT or a person appointed by TÜV SÜD BABT to perform that role.

Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be reapproved prior to it/them being placed on board vessels to which the amended regulations or standards apply.



The Mark of Conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-control phase module (D, E, or F) of ANNEX B of the Directive is fully complied with and controlled by a written inspection agreement with a notified body."

Signed:..... L Rowley Date: 24th July 2014

on behalf of TÜV SÜD BABT