



EC TYPE EXAMINATION (MODULE B) CERTIFICATE (EC-US MRA)

No.	03-001535/031232
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THIS IS TO CERTIFY:

That Croatian Register of Shipping did undertake the relevant type approval procedures for the equipment identified below which was found to be in compliance with requirements of Marine Equipment Directive (MED) 96/98/EC as last amended by directive (EU)2015/559, subject to any conditions in the schedule attached hereto.

TYPE AND DESCRIPTION OF PRODUCT

MX610 / MX612 / GN70 – GPS/DGPS/GLONASS System

ANNEX A.1 NO AND ITEM DESIGNATION

A.1/4.14 GPS equipment
A.1/4.15 GLONASS equipment
A.1/4.50 DGPS equipment
A.1/4.51 DGLONASS equipment

MANUFACTURER:

NAVICO HOLDING AS
Nyåskaiveien 2, 4374 Egersund – Norway

REGULATIONS AND STANDARDS (in accordance with Annex A.1, Directive)

SOLAS 1974 as amended, Reg. V/19
IMO Res. A.694(17), IMO Res. MSC.112(73), IMO Res. MSC.113(73), IMO Res. MSC.114(73), IMO Res. MSC.115(73),
IMO Res. MSC.191(79).

USCG Module B number: 165.130/EC2489 ; 165.131/EC2489

NOTICE:

- Further details of the product and conditions for certification are given overleaf.
- 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 the notified body named on this certificate.
- 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.
- 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.
- In case limitations of use apply, these should be indicated of in the Schedule of Approval.
- This product has been assigned **U.S. Coast Guard Module B number** as stated above to note type approval to Module B only as it pertains to obtaining US Coast Guard approval as allowed by the "Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment" signed February 27th, 2004.

No. **03-001535/031232**

Issued by Croatian Register of Shipping, notified body number 2489.

This certificate is valid until: **2020-07-25**

Place and date: **Split, 2016-07-25** Seal

Signature
Marinko Popović, dipl.ing.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

MX610/MX612/GN70 – GPS/DGPS/GLONASS System consists of the following components:

		<i>Item name</i>	<i>Part No.</i>
1.	<i>GPS Smart Antenna</i>	<i>GS 70</i>	<i>000-11137-001</i>
2.	<i>GPS/DGPS sensor with GLONASS</i>	<i>MX521B GPS/GLONASS</i> <i>MX521B DGPS/GLONASS</i>	<i>000-11641-001</i> <i>000-11640-001</i>
3.	<i>GPS/DGPS Equipment with GLONASS</i>	<i>MX575D</i> <i>HS80A</i>	<i>000-11644-001</i> <i>000-11643-001</i>
4.	<i>User interface unit</i>	<i>MX610 D/GPS/GLONASS</i> <i>MX612 D/GPS/GLONASS</i> <i>GN70 D/GPS/GLONASS</i>	<i>000-10914-001</i> <i>000-10915-001</i> <i>000-10913-001</i>
5.	<i>Junction Box</i>	<i>MX610 JB</i> <i>MX612 JB</i>	<i>000-11139-001</i> <i>000-10916-001</i>

2. APPLICATION / LIMITATION OF USE

Product is re-certified against latest edition of the standard IEC 62288 Ed. 2.0 (2014-07) – Presentation of navigation information.

<i>Standard-Magnetic and Steering-Magnetic compass safe distance</i>	<i>300 mm</i>
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The presentation include AIS data information that are not fully compliant with relevant standard and such a presentation is identified as an „Auxiliary presentation“.

3. DESIGN DRAWINGS AND SPECIFICATIONS

HS80/HS80A/MX575C/MX575D GPS Compass Manual – P/N 988-10221-003;

GN70/MX610/612 Operator and Installation Manual – P/N 988-10372-003;

GS70 Installation Guide – P/N 988-10540-002;

MX521/MX521A/MX521B GPS/DGPS Manual – P/N 727052 C.

4. TYPE TEST RECORDS / LABORATORY RECOGNITION STATUS

IEC 61108-1 Ed.2.0, 2003 – Global positioning system (GPS) – Receiver equipment – Performance standards;

IEC 61108-2 Ed.1.0, 1998 – Global navigation satellite system (GLONASS) – Receiver equipment – Performance standards;

IEC 61108-4 Ed.1.0, 2004 – Shipborne DGPS and DGLONASS maritime radio beacon receiver equipment – Performance requirements;

IEC 61162-1 Ed.4.0, 2010 – Maritime navigation and radiocommunication equipment and systems – Digital interfaces;

IEC 61162-3 Ed.1.1, 2010 – NMEA2000;

IEC 60945 Ed. 4.0 (2002-08) including Corrigendum 1(2008) – Environmental testing;

IEC 62288 Ed. 2.0 (2014-07) – Presentation of navigation information, CRS witness test - Egersund, 2016-05-13;

CRS letter of approval - 1741/TSE/VB/031175 dated 2016-07-12 (All Technical Documents & Test Reports included).

5. MATERIALS OR COMPONENTS REQUIRED TO BE TYPE APPROVED OR TYPE TESTED

This approval remains valid for subsequent minor software amendments, as allowed by the SW numerical format.

Written details of any such modification shall be submitted to and accepted by the approvals authority.

6. OTHER MATERIALS AND / OR COMPONENT

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7. PRODUCTION SURVEY REQUIREMENTS

The manufacturer is allowed to affix the Mark of Conformity to equipment referred and to issue a Declaration of Conformity as long as either of the following is fulfilled:

Module D - The quality system for production and testing shall be approved by the Notified Body or,

Module E - The quality system for inspection and testing shall be approved by the Notified Body or,

Module F - Compliance of the product in this EC Type Examination Certificate is to be verified by the Notified Body who shall also issue a Certificate of Conformity.

8. ONBOARD INSTALLATION AND MAINTENANCE REQUIREMENTS

The installation on board shall be verified and tested according to Installation & Operation Manual.

9. MARKING AND IDENTIFICATION



Subject to compliance with the conditions in this Schedule of Approval which forms part of certificate, and those of Articles 10.1(i) and 11 of the Directive, the Manufacturer is allowed to affix the “Mark of Conformity” to the Product described herein.

2489/yy (yy = last two digits of year mark affixed)

This product has been assigned US Coast Guard Modul B number 165.130/EC2489 and 165.131/EC2489. In those instances where the Notified Body conducting the conformity assessment in accordance with either Module D, E or F of the Marine Equipment Directive is not CRS, such Notified Body would use the above U.S. Coast Guard Module B number to provide the manufacturer with the U.S. Coast Guard approval number by noting it on the Certificate of Conformity, thereby authorizing the manufacturer to mark the product accordingly.

Note: For product placed on board U.S. flagged ships there is not declaration of conformity required to meet U.S. Coast Guard required.

10. OTHERS

SOFTWARE:

<i>Item name</i>	<i>SW version</i>
<i>MX610/MX612/GN70</i>	<i>1.1.xx</i>
<i>MX610JB/MX612JB</i>	<i>1.1.xx</i>
<i>HS80A/MX575D</i>	<i>1.51.x</i>
<i>MX521B</i>	<i>6.81.x</i>
<i>GS70</i>	<i>1.1.xx</i>

APPENDIX – TYPE EXAMINATION DOCUMENTATION

	<i>Document title</i>	<i>Identification number</i>	<i>Revision index</i>
1.	<i>GNSS sat. nav. receiver equipment, P204 GNSS receiver module Hemisphere GNSS Inc. Test Standards: IEC 61108-1:2003 IEC 61108-2:1998 IEC 61162-1:2010</i>	<i>BSH/4542/001/4112550/13-S3301</i>	<i>25. September 2013</i>
2.	<i>MX521B – DGNSS navigation system Navico Holding AS Test Standard: IEC 61162-1:2010</i>	<i>BSH/4542/001/4112665/13-1</i>	<i>10. March 2014</i>
3.	<i>Transmitting heading device (THD) system Hemisphere GPS Inc Test Standards: IEC 61162-1/-2 IEC 60945:2002 ISO 22090-3</i>	<i>BSH/4615/4030330/07</i>	<i>30 July 2007</i>
4.	<i>Transmitting heading device (THD) system Hemisphere GPS Inc Test Standards: IEC 61162-1:2010 IEC 61162-2:1998</i>	<i>BSH/4612/4412065/11-2</i>	<i>14.03.2012</i>
5.	<i>DGNSS smart antenna, MX521B (P204, GPS/GLONASS) Hemisphere GNSS Inc. Test Standard: IEC 61108-1:2003 IEC 61108-2:1998</i>	<i>BSH/4542/001/4112665/13-S3301</i>	<i>28. November 2013</i>
6.	<i>Differential GPS Beacon Receiver Modul, SBX4 DGPS modul CSI Wireless, Hemisphere GPS Test Standard: IEC 61108-4 Ed.1:2004</i>	<i>BSH/4615/4120131/05</i>	<i>12. July 2006</i>
7.	<i>Transmitting heading device (THD) system Hemisphere GPS Inc Test Standards: ISO 22090-3:2004</i>	<i>BSH/4612/4412612/13</i>	<i>23.10.2013</i>
8.	<i>SIMRAD GS25 & GS70 - EMC Test, EMC Technologies, Auckland Test Standard: IEC 60945:2002</i>	<i>120905.1</i>	<i>13. February 2013</i>
9.	<i>GPS sat.nav. receiver equipment GN70/GS70 Test Standard: IEC 61108-1:2003 IEC 60945:2002</i>	<i>BSH/4543/001/4142549/13-S3301</i>	<i>26th September 2013</i>
10.	<i>GN70/MX610/MX612 – NAVICO HOLDING AS Test Standard: IEC 62288 Ed.1, 2008</i>	<i>BSH/4543/001/4142549/13-2-S3301</i>	<i>20th June 2013</i>
11.	<i>GN70/MX610JB – NAVICO HOLDING AS, Norway Test Standard: IEC 61162-1:2010 – Interface output</i>	<i>BSH/4543/001/4142549/13-3-S3301</i>	<i>21st June 2013</i>
12.	<i>MX610JB/612JB – Digital interface test Test Standard: IEC 61162-1 Ed.4.0 – sec. 5.6.4 and 5.6.6</i>	<i>TAP20120605-1</i>	<i>1/6/2012</i>
13.	<i>GS70 Smart antenna – water ingress test</i>	<i>20121005</i>	<i>13-NOV-12</i>
14.	<i>GS70 Smart antenna – Damp Heat Test</i>	<i>2013-04-03</i>	<i>3-Apr-13</i>
15.	<i>GS70 Smart antenna – Harsh Test PV1</i>	<i>2013-02-18</i>	<i>18-Feb-13</i>
16.	<i>GS70 Smart antenna – Vibration</i>	<i>DRP-AU-ME-20130225-02</i>	<i>25 Feb 2013</i>
17.	<i>GS70 Smart antenna – IP protection (AUSTEST Laboratories)</i>	<i>NAV130201-A</i>	<i>21st February 2013</i>
18.	<i>GN70/MX610/612 - Sound pressure level, Uniservices Auckland Test Standard: IEC 60945:2002</i>	<i>31477.003</i>	<i>17th January 2012</i>
19.	<i>MX610JB/612JB - EMC Test, EMC Technologies, Auckland Test Standard: IEC 60945:2002</i>	<i>120414.1</i>	<i>6th June 2012</i>

	<i>Document title</i>	<i>Identification number</i>	<i>Revision index</i>
20.	<i>GN70/MX610/612 - EMC Test, EMC Technologies, Auckland Test Standard: IEC 60945:2002</i>	<i>111002.1</i>	<i>16th February 2012</i>
21.	<i>GN70/MX610/612 - EMC Test, EMC Technologies, Auckland Test Standard: IEC 60945:2002</i>	<i>111029.1</i>	<i>16th February 2012</i>
22.	<i>GN70/MX610/612/610JB/612JB - Environmental Testing, DnV Test Standard: IEC 60945:2002</i>	<i>2012-3214</i>	<i>2012-05-29</i>
23.	<i>GS70 Smart Antenna – Corrosion Waiver</i>	<i>Navico</i>	<i>September 3, 2013</i>
24.	<i>GS70 Smart Antenna – Salt fog test</i>	<i>DRP-EN-ME-20121106</i>	<i>06-NOV-12</i>
25.	<i>Transmitting heading device (THD) system Hemisphere GPS Inc Test Standards: IEC 61162-1:2010 IEC 61162-2:1998</i>	<i>BSH/4612/4412065/12-5</i>	<i>14.03.2012</i>
26.	<i>Environmental Testing of the MX575D Electronic Test Centre – MPB TECHNOLOGIES INC.</i>	<i>H10p5102 release 1</i>	<i>2013-09-05</i>
27.	<i>MX521 – MPB Environmental Test Report</i>	<i>C05P2767</i>	<i>April 7th-21st, 2003</i>
28.	<i>MX521B DGNS – MPB Environmental Test Report</i>	<i>H10p5175 release 01</i>	<i>2013 12 20</i>
29.	<i>Mechanical Testing of the MX575D Electronic Test Centre – MPB TECHNOLOGIES INC.</i>	<i>H10p4667 release 04</i>	<i>2012-02-06</i>
30.	<i>MX575D Corrosion waiver Hemisphere GPS Inc.</i>	<i>Hemisphere</i>	<i>January 6th, 2012</i>
31.	<i>MX575D – EMC test Electronic Test Centre – MPB TECHNOLOGIES INC.</i>	<i>h10e5101-3 release 3</i>	<i>2013-11-19</i>
32.	<i>Safe distance to the Standard Magnetic Compass BSH – Germany</i>	<i>864</i>	<i>2014-03-14</i>
33.	<i>MX575D – Safe distance to Standard magnetic and Steering magnetic compass, BSH Germany</i>	<i>837</i>	<i>-</i>
34.	<i>THD – MX575C/HS80 Compass Test Standards: ISO 22090-3(2004) IEC 61162-1(2010) IEC 61162-2(1998) IEC 62288 (2008)</i>	<i>BSH/46121/4412249/12-1</i>	<i>04.07.2012</i>
35.	<i>MX575C DGPS/THD receiver Test Standards: IEC 61162-1(2010) IEC 61108-1(2003) IEC 61108-4(2004) IEC 62288 (2008)</i>	<i>BSH/46121/4142330/12/S3301</i>	<i>22nd June 2012</i>
36.	<i>THD – MX575C/HS80 Compass Test Standards: ISO 22090-3(2004) IEC 61162-1(2010) IEC 61162-2(1998) IEC 62288 (2008)</i>	<i>BSH/46121/4412249/12</i>	<i>24.05.2012</i>
37.	<i>MX521A DGPS receiver Test Standards: IEC 61162-1(2010)</i>	<i>BSH/46121/4142143/11/S3301</i>	<i>08th December 2011</i>

- END OF CERTIFICATE -