

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV GL AS under the authority of the Government of Norway.

This is to certify:

That the Track control system (TCS)

with type designation(s)

JRC JAN-7201/9201 ECDIS TCS TYPE TOKYO KEIKI HCS-9000 CAT-C

Issued to

**Japan Radio Co., Ltd.
Mitaka, Tokyo, Japan**

is found to comply with the requirements in the following Regulations/Standards:

Regulation **(EU) 2019/1397,**

**item No. MED/4.33. SOLAS 74 as amended, Regulations V/18 & V/19, IMO Res A.694(17),
IMO Res MSC.74(69), IMO Res MSC.191(79), IMO Res MSC.302(87)**

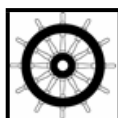
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2021-08-28**.

Issued at **Høvik** on **2020-02-18**

DNV GL local station:
Yokohama

Approval Engineer:
Roger Lauritsen



Notified Body
No.: **0575**

for **DNV GL AS**

Roald Vårheim
Head of Notified Body

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the United States of America and the EEA EFTA states on the mutual recognition of Certificates of Conformity for Marine Equipment" signed 17 October 2005, and amended by Decision No 1/2019 dated February 22nd, 2019.

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-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.

This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL AS of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.

Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.



Job Id: **344.1-004598-2**
Certificate No: **MEDB00004WN**

Product description

Track control system of Japan Radio Co., Ltd consist of following components,

- Japan Radio Co., Ltd: ECDIS JAN 7201/9201 and
- Tokyo Keiki Inc.: Heading Control System HCS-9000 Series.

Option component for complying with DNVGL-RU-SHIP Pt.6 Ch.3. Sec.3 (Edition July 2019, amended October 2019) is;

- Dual gyro change over unit, DGC-80(TG-8000 series).

ECDIS JAN 7201/9201: Hardware and Software

Description	Part Name	Location	Remark
Monitor JAN-9201	NWZ-208	Protected	26 inch
Monitor JAN-7201	NWZ-207 or	Protected	19 inch
	NWZ-214	Protected	19 inch
Keyboard	NCE-5625	Protected	option
Trackball	NCE-5605	Protected	-
Central Control Unit	NDC-1590	Protected	-
Power supply unit	NBD-913	Protected	-
Junction Box	NQE-1143	Protected	-
Sensor LAN unit	NQA-2443	Protected	-

ECDIS software version:01.40

Application software module for TCS: 01.xx

Heading Control System HCS-9000 Series: Hardware and software

Description	Part Name	Software	Location
Heading Control Unit (HCCPU)	HCCPU	1.1x	Protected
	ADNCT2	1.1x (Adaptive)	Protected
Heading Control Interface unit	HCIFU	1.1x	Protected

Application/Limitation

- The system complies with the IMO requirement for Category C track control system
- The equipment identified on the production description shall hold a valid type approval certificate.
- The system shall be connected to an alarm transfer system for transferring of back-up navigator alarms
- The system shall be verified and tested on board according to manufacturer installation instruction.
- The system with DGC-80 may comply with DNVGL-RU-SHIP Pt.6 Ch.3. Sec.3 (Edition July 2019, amended October 2019) depending on installation.

Type Examination documentation

DNV GL No	Doc. No.	Rev.	Description
73	11989/D2 MED		Certificate: BV, TG-8000
74	MEDB00003NC		Certificate: DNV GL, HCS-9000
71	BABT-MED000061	Issue 9	Certificate: TUV, ECDIS, JAN-7201
70	BABT-MED000062	Issue 9	Certificate: TUV, ECDIS, JAN-9201
30			Doc: FMEA check sheet (part of performance test report)
39	7ZPNA4463	2	Manual: Additional Instruction Manual TCS model Category B/C (TOKYO KEIKI PR-6000 and HCS-9000)
27	E10-1089B		Manual: Double Gyro compass change over unit DGC-80 Operator's Manual
41	TKME1-15-E002	Feb. 2015	Manual: Interface Specification of HCS-9000 for class notation NAUT-AW
42			Manual: Safety system of HCS-9000
26	WW-000001398		Report: Acceptance test and result for "JRC JAN-7201/9201 ECDIS TCS TYPE TOKYO KEIKI HCS-9000 CAT-C"
40	WW-000001439		Report: Acceptance test and result for "JRC JAN-7201/9201 ECDIS TCS TYPE TOKYO KEIKI HCS-9000 CAT-C"
23	WW-000001056		Report: Acceptance test procedure and result for "JRC MFD/ECDIS TCS TYPE YDK CAT-C" IEC61162-1
66	JPX-TR-17101-0	1.0	Report: TuV NVLAB, IEC60945 EMC Testing of the Japan Radio Co., Ltd. JMR-5425-6XH (inc. NWZ-214)
68	75937370	Report 01 Issue 1	Report: TuV, IEC 62288, Display Presentation Testing of the Japan Radio Co., Ltd. JMR-5400 (inc. NWZ-214)
67	75937370	Report 04 Issue2	Report: TuV, IEC60945 Environmental Testing of the Japan Radio Co., Ltd. JMR-5400 (inc. NWZ-214)

Tests carried out

- Performance test: IEC62065 (2014)
- Environment test: IEC60945 (2002) incl Corr.1 (2008)
- Serial interface test: IEC61162-1 (2016)
- Presentation test: IEC62288 (2014)
- DNVGL-RU-SHIP Pt.6 Ch.3. Sec.3 (Edition July 2019, amended October 2019)

Marking of product

The type designation and name and contact address of the manufacturer shall be affixed visibly, legibly and indelibly to the product. In addition the product shall be marked with serial number, safe distance to magnetic compass, power consumption and/or supply voltage.