



CERTIFICATE OF TYPE APPROVAL

(EC Certificate of Type Examination - Module B)

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

Applicant:-

Japan Radio Co., Ltd
C/O Amsterdam Branch
Cessnalaan 40-42
1119 NL Schiphol-Rijk
The Netherlands

Manufacturer:-

Japan Radio Co., Ltd
1-1 Shimorenjaku
5-chome, Mitaka-Shi
Tokyo 181-8510
JAPAN

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

Speed and Distance Measuring Equipment
(COMMISSION DIRECTIVE 2009/26/EC – ITEM A.1/4.7)

Of system type known and designated as:-

JRC JLN-205 Doppler Log System

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

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 61023 :2007, "Marine Speed and Distance measuring equipment (SDME)"

IEC 60945 : 2002 "General Requirements for Marine Navigation Equipment"

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 2009/26/EC for Item 4.7)

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

It is also CERTIFIED that the equipment conforms to performance standards not inferior to those adopted by the International Maritime Organisation and which are contained in Resolution A824(19) as amended by Resolution MSC.96(72), Resolution MSC.191(79) and Resolution A694(17).

SIGNED:

P J Goddard

Authorised Signatory
for and on behalf of QinetiQ Ltd

DATE of ISSUE: 14th September 2010

DATE of EXPIRY : 2nd February 2015

Certificate Number: QQ-MED-39/04-01R2

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

USCG Approval Number:

165.105/EC0191/3904-01

This Certificate is Valid until expiry date shown, subject to the standard conditions of issue printed on page 4

Japan Radio Co. Ltd are Module D registered with QinetiQ in accord with standard condition 3, ref Certificates DQAS-01/01-JRC001R15.

QinetiQ

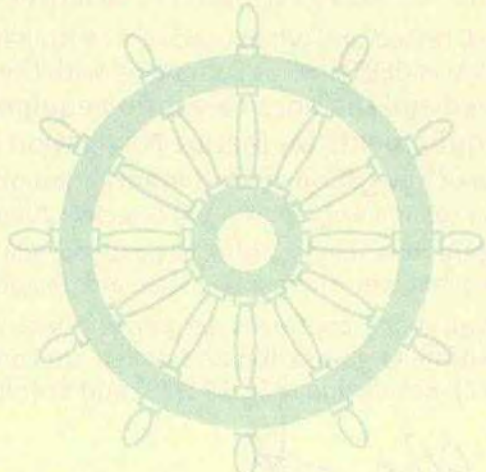
Cody Technology Park
Ively Road, Farnborough
Hampshire. GU14 0LX



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

Under the terms of the United Kingdom Statutory Instrument, No 1957 : 1999, QinetiQ Ltd has been Notified to the European Commission by the Maritime and Coastguard Agency as a Body authorised to conduct Conformity Assessment procedures under the provisions of the European Council Directive 96/98/EC (as amended) on Marine Equipment and issue Certificates of Type Approval.

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Notified Body 0191

Certificate of Type Approval - Schedule 1

JRC, JLN-205, Doppler Log System

The applicant declared that the following units when combined form an operational Marine Shipborne Speed and Distance Measuring equipment of the system designation given on Page 1. The units below have been assessed & tested and satisfactory details of these units were included in the technical file.

SYSTEM comprising of:-

MAIN UNITS:	Main Display	NWW-65
	Log Signal Processor	NJC-25
	Log Signal Distributor unit	NQA-4288
	Assembly of Transducer in weldable tank	NKF-547 *1
	or Assembly of Transducer in Gate Valve	NKF-531E *1,
SOFTWARE	Sonar Signal Processor (Firmware on CDC-1228)	Version 1.00-1d *2
----- End of List -----		

- NOTES:-
- 1 Attachment and/or welding of either assembly to vessel hull must be under inspection/approval of appropriate Flag or Class authority.
 - 2 Software Modification: This approval is valid for equipment including subsequent software versions only where written details of such versions have been submitted to and accepted by QinetiQ.
 - 3 This certificate supersedes and replaces certificate MED-QQ-39/04-01R dated 3rd February 2010.

Technical Characteristics

PARAMETER	PROVISION	COMMENT
SPEED RANGE Water & Ground Track - Single axis	-10 to +40.0 Knots F/A	Digital Display only. -10 to max speed in 0.01 kt steps.
DISTANCE INDICATION	0.00 to 99999.99 nautical miles	Trip and Total Distance to 99999.99nm Trip Resettable to 00000.00
SPEED ACCURACY	≤2% or 0.2kt	Limit is 2% or 0.2kt whichever is greater
DISTANCE RUN ACCURACY	≤2%	Only available for forward motion (IEC 61162-1 sentence)
DISTANCE RUN OUTPUTS 200 pulse/Nmile	4 ports	Water Track output, Forward speed only.
IEC 61162-1 SERIAL PORTS	Listner - 1 Talker - 8	Conformity to IEC 61162-1:2000. Listener to VTG, RMA & RMC Sentences Talker for \$VDVBW, \$VDVLW
TEMPERATURE RANGE & IEC 945 CLASS	Exposed -25°C to +70°C Protected -15°C to +55°C. Submerged +70°C, storage	-- All other units -- NKF-547 & NKF-531E Transducers
POWER SOURCE	100V/110V/115V-or 220/230V AC 50-60Hz, 1Ø	

Conditions of Issue of this certificate are printed on page 4.

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

Certificate Number **QQ-MED-39/04-01R2**

Certificates of Type Approval Conditions of Issue

1. Each Certificate will be used in its entirety and not reproduced in part.
2. 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.
3. The mark of conformity 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.
The use of the QinetiQ Notified Body Number (0191) in combination with the Wheelmark implies that the manufacturer is Registered with the QinetiQ Quality Assurance Scheme. A Certificate of Registration is issued to the manufacturer and should be made available on request. The manufacturer is responsible for ensuring that certification renewal and periodic surveillance are maintained.
4. 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. This 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.
5. This certificate does not confer any approval status to this equipment other than defined by, and tested according to the specifications listed on Page 1.
6. 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.
7. 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;
8. The manufacturer must advise QinetiQ of any intended changes to the design or production of the equipment which might affect the equipment performance.
9. Minor Modifications to the equipment will be considered on a case-by-case basis. QinetiQ will review any factory test results, in consultation if necessary, with the test facility that conducted the original Type Approval testing on the equipment. QinetiQ will advise the manufacturer if any further testing is required to maintain valid certification.
10. 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 completed and sent to QinetiQ.

QinetiQ Ltd
Marine Approval and Testing Service
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