



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:-

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

Manufacturer:-

Japan Radio Company Limited
1-1 Shimorenjaku
5-chome, Mitaka-Shi
Tokyo 181-8510
JAPAN

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

**SHIPBORNE SIMPLIFIED VOYAGE DATA RECORDER (S-VDR) EQUIPMENT
(COMMISSION DIRECTIVE 2010/68/EU – ITEM A.1/4.47)**

Of system type known and designated as:-

JCY-1850 – Simplified Voyage Data Recorder

(Comprising component parts and having technical characteristics shown in shedule 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 61996-2:2007, "Part 2: Simplified voyage data recorder (S-VDR)"

IEC 60945 : 2002 "General Requirements for Marine Navigation Equipment" Incl. Corr. 1:2008

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 2010/68/EU for Item 4.29)

Note: IEC 62288:2008 covers the presentation standard of all navigational equipment and appropriate assessment of S-VDR bridge display aspects, has confirmed minimum 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.163(78) as amended by Resolution MSC.214(81), Resolution MSC.191(79) and Resolution A694(17).

SIGNED:

R A Sharp

Authorised Signatory

DATE of ISSUE:

27th May 2011

DATE of EXPIRY :

26th May 2016

Certificate Number:

QQ-MED-03/11-01

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 Page 4
Japan Radio Co. Ltd are Module D registered with QinetiQ in accord with standard condition 3, ref Certificate DQAS-01/10-JRC002

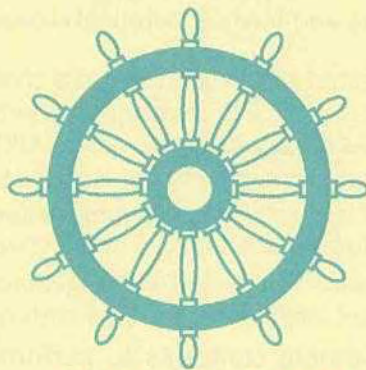
QinetiQ
Cody Technology Park
Ively Road, Farnborough
Hampshire. GU14 0LX



Maritime and Coastguard Agency
The MCA is an Executive Agency of
the Department of 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 on Marine Equipment and issue Certificates of Type Approval.

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Notified Body 0191

Certificate of Type Approval - Schedule 1

JRC, JCY-1850 Simplified Voyage Data Recorder

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

MAIN UNIT Comprising:-

Recording Control Unit (RCU)	NDV-1850	*1
Protective capsule Unit (PCU)	NDH-317 or NDH-317A	*2
Operation Panel Unit	NCG-169	*1
Microphone Unit(s)	NVT-161	*1
Connection Box (Protective capsule cables)	NQE-3163	*1

And may include (Options):-

Digital Signal Converter	NCT-72 or NCT-63	*1, *3
Gyro Step/syncro Converter	NCT-27	*3
Waterproof Microphone Unit	NVT-162	*1
Radar Interface Unit (for high definition formats)	NWP-46	*1

SOFTWARE:-

Recording Control Unit	Version	2.0.0	*4
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----- End of List -----

NOTES:-

1. These units are either identical or have a technical analogy to units of the JRC, JCY-1800 VDR system that is Type Approved under Certificate number QQ-MED-02/11-01.
2. The protective capsule is an OEM unit supplied by L3 Communications. It is equipped with 2GB of flash memory. Nominal recording times exceed 12 hours dependent on number of inputs and set-up. Larger memory size capsules are available.
3. Includes interface for dry contact, analogue signals and Step/Syncro gyro heading –no performance standard assessed
4. This approval is valid for equipment including minor software revisions where written details of any modifications have been submitted to and accepted by QinetiQ.
5. Radar recording partition is reassigned to record all AIS serial data if ownships radar is incompatible with S-VDR. The Radar Video PCB (internal to NDV-1850) may be omitted for such installations (JRC Factory option only).
6. This certificate supersedes and replaces Certificate number QQ-MED-10/06-02 issued on 22/08/2008.

Technical Characteristics

PARAMETER	PROVISION	COMMENT
IEC 61162-1 SERIAL PORTS	16	Conformity to IEC 61162-1:2000. Inputs are configurable to IEC 61162-2; 1998 for AIS. Messages - VDM, VDO ALR, TXT. Designated port in RCU for GPS (ZDA) message.
ANALOGUE SIGNAL PORTS	1 gyro (step/syncro) 1 log (Pulse)	An internal A/D unit can accept analogue signals. No performance assessment as IEC 61996 does not detail criteria.
RADAR VIDEO PORT (Not available if full AIS only option is configured)	1 channel, 2 switchable input ports	Red/Green/Blue analogue plus H/V Sync. VESA DMITS standards to 1240 x 1024@85Hz and 1600 x 1200 @ 60Hz, covered Presence check and alarm
BRIDGE AUDIO Ports	Up to 9 microphones	3 channels each accepting up to 3 microphones. May be standard or waterproof units. 12 hr Acoustic integrity check
RADIO COMMS AUDIO Ports	Up to 3 Radio inputs	1 channel accepting up to 3 signal inputs. 600Ω/0dBm
FLOAT FREE	No	Protective capsule used is for fixed deck installation only.
RECORDING DURATION	>12 Hours	Details in manual of input selection to ensure 12 hour recording to protective capsule is made. PCU Data can be downloaded to Flash memory card.
Download & Replay Software	Ethernet Port & S/W CD	Ethernet Port and CD of playback & Conversion Software
RESERVE POWER	2 Hours	From internal batteries. Bridge audio only recorded during reserve power operation
POWER SOURCE	100/120 or 220/ 240V AC, 50-60Hz	Power supply input via Recording Control Unit. Recharger for Internal reserve back-up power supply
Temperature Range - Exposed & IEC 945 Class - Protected	-25°C to +55°C +70°C (Storage) -15°C to +55°C.	--- Protective Capsule, Connection Box, Waterproof Micro- phone Unit. --- All other units

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

QinetiQ
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Certificate Number **QQ-MED-03/11-01**

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 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.
5. 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.
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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