



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. A-11062
This Certificate consists of 3 pages

This is to certify that the
Personal Computer
with type designations
HP Compaq dc7900 Convertible Minitower (CMT) PC
HP Compaq dc7900 Small Form Factor (SFF) PC

Manufactured by
Mariner Systems (UK) Ltd.
WOKINGHAM, United Kingdom

is found to comply with
Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and
Det Norske Veritas' Offshore Standards


Application/Limitation:

See page 2

Location classes:

Temperature	D
Humidity	B
Vibration	A
EMC	B
Enclosure	Required protection according to DNV Rules shall be provided upon installation on board


Place and date
Høvik, 2009-01-15
for DET NORSKE VERITAS AS


Odd Magne Nesvåg
Head of Section



Local Office
DNV Newcastle-upon-Tyne

This Certificate is valid until
2013-06-30


Ståle Sjøen
Surveyor

Notice: This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



Cert. No.: A-11062
File No.: 899.30
Job ID : 262.1-006725-1

Product description

HP Compaq dc7900 Convertible Minitower (CMT) PC
HP Compaq dc7900 Small Form Factor (SFF) PC

Application/Limitation

This Type Approval is **ONLY** valid with the following maritime kits installed:

- dc7900 CMT PC: Mariner kit MS2150 or MS2160
- dc7900 SFF PC: Mariner kit MS2170 or MS2180

This Type Approval does not cover Wireless communication.

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.

Product certificate

Each delivery of the application system is to be certified according to Pt.4 Ch.9 Sec.1. The certification test is to be performed at the manufacturer of the application system according to an approved test program before the system is shipped to the yard. After the certification the clause for application software control will be put into force.

Clause for application software control

All changes in software are to be recorded as long as the system is in use on board. The records of all changes are to be forwarded to DNV for evaluation and approval. Major changes in the software are to be approved before being installed in the computer.

Type Approval documentation

Assembly drawings:

- MS2150_A, issue 1 dated 2008-11-25
- MS2160_A, issue 1 dated 2008-11-25
- MS2170_A, issue 1 dated 2008-11-25
- MS2180_A, issue 1 dated 2008-11-25

QuickSpecs HP Compaq dc7900 Business PC:

- DA-13029, Worldwide version 6 dated 2008-10-20

Documentation for additional accessories:

- HP Broadcom NetXtreme Gigabit Ethernet Plus NIC
DA-13139, Worldwide version 1 dated 2008-09-24
- matrox QID Series User Guide 10876-301-0210 dated 2005-03-21
- Transcend Information Inc. 2.5" Solid State Disk
TS(8/16/32/64/128)GSSD25S-(S/M) Product data sheet V1.04



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- Solid State Drive MSD-SATA3535 Product Spec. Rev.0.3 dated 2008-08-27
- IDS Eagle Falcon - PCI and PCI Express Frame Grabbers dated May 2008
- PEG2 Gigabit Ethernet Product Data Sheet 1V4

Component Options – History (describes approved HW options with ref. to test reports):

- File HPdc7900-Components-12Nov2008, dated 2008-11-12

Test reports:

- TL1226, dated 2008-12-05 (for HP Compaq dc7900 CMT)
- TL1227, dated 2008-12-05 (for HP Compaq dc7900 CMT)
- TL1228, dated 2008-12-05 (for HP Compaq dc7900 SFF)
- TL1229, dated 2008-12-05 (for HP Compaq dc7900 SFF)

Tests carried out

Applicable tests according to DNV Standard for Certification no. 2.4 of April 2006. For the bridge mounted components the 'Acoustic noise and signals' and the 'Compass safe distance' were measured according to sections 11.1 and 11.2 of IEC 60945, 4th edition (2002).

Certificate retention survey

The scope of the retention/renewal survey is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the survey are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Retention survey is to be performed at least every second year and at renewal of this certificate.

END OF CERTIFICATE