



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. A-10770
This Certificate consists of 3 pages

This is to certify that the
Peripheral Equipment
with type designation(s)
HP L1750 17" TFT

Manufactured by
Mariner Systems (UK) Ltd.
WOKINGHAM RG41 2FD, 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

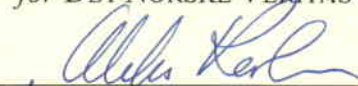
Application
Location Classes:

Type	HP L1750 17" TFT
Temperature	D
Humidity	B
Vibration	A
EMC	B
Enclosure	Required protection according to the Rules to be provided upon installation on board

Approved **only** together with Mariner Kits as described on page 2

Place and date
Høvik, 2008-05-20

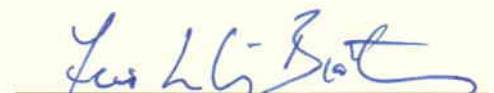
for DET NORSKE VERITAS AS


Odd Magne Nesvåg
Head of Section



Local Office
DNV Newcastle-upon-Tyne

This Certificate is valid until
2012-06-30


Jens Erling Bråten
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-10770
File No.: 899.60
Job ID.: 262.1-004908

Product description

Color TFT Display Monitor HP17" Model L1750

Application/Limitation

Approval **ONLY** applies when used in conjunction with Mariner Systems (UK) Ltd:

Monitor Mariner kit

MS1130: HP L1750 17" TFT (Desk-mount)

MS1135: HP L1750 17" TFT (Wall-mount)

MS1140: HP L1750 17" TFT (Console-mount)

Approval Conditions

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.

Standard Compass Safe Distance: 70 cm, Steering Compass Safe Distance: 50 cm

Type Approval documentation

- Test File No.TL1116
- QuickSpecs HP L1750 17-inch LCD Monitor, doc. DA-12801 ver 4, dated 2007-12-17
- Mariner Systems (UK) Ltd. Marine Test Requirements based on IACS Unified Requirement E10 & IEC60495.
- MS1130 assembly, Dwg. No MS1130_A
- MS1135 assembly, Dwg. No MS1135_A
- MS1140 assembly, Dwg. No MS1140_A
- MS1140 drilling detail, Dwg. No MS1140_DD

Tests carried out

Applicable tests according to Standard for Certification No. 2.4, April 2006.

For the bridge mounted components the 'Acoustic noise and signals' and 'Compass safe distance' were measured according to sections 11.1 and 11.2 of IEC60945.



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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