



# DET NORSKE VERITAS

## TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. **A-11702**

This is to certify that the  
**Peripheral Equipment**

with type designation(s)  
**HP LA1905wg 19" widescreen TFT monitor**

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  
**Approved only with Mariner Kits shown on page 2.**


### Location Classes:

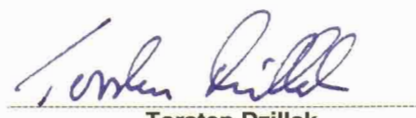

Temperature	D
Humidity	B
Vibration	A
EMC	B
Enclosure	Required protection according to the Rules to be provided upon installation on board

**Høvik, 2010-04-28**  
for **Det Norske Veritas AS**

This Certificate is valid until  
**2014-06-30**

  
**Odd Magne Nesvåg**  
Head of Section

  
DNV local office:  
**DNV Newcastle-upon-Tyne**

  
**Torsten Dzillak**  
Surveyor 

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.



Certificate No.: A-11702  
File No.: 899.60  
Job Id.: 262.1-008959-1

## Product description

HP LA1905wg 19" widescreen TFT monitor

## Application/Limitation

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

### Monitor Mariner kit

MS1210: HP LA1905wg 19" TFT Widescreen Monitor (Desk mount)  
MS1215: HP LA1905wg 19" TFT Widescreen Monitor (Wall mount)  
MS1220: HP LA1905wg 19" TFT Widescreen Monitor (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: 50 cm, Steering Compass Safe Distance: 30 cm

## Type Approval documentation

- Test File No.TL1349, dated 2009-12-12
- QuickSpecs HP Compaq LA1905wg 19-inch Widescreen LCD Monitor, doc. DA-13441 ver 4, dated 2009-10-30
- Mariner Systems (UK) Ltd, Marine Test Requirements based on IACS Unified Requirement E10 & IEC60495 (Issue 9).
- MS1210 assembly, Dwg. No MS1210\_A, dated 2009-11-29
- MS1215 assembly, Dwg. No MS1215\_A, dated 2009-11-29
- MS1220 assembly, Dwg. No MS1220\_A, dated 2009-11-29

## 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 IEC 60945, 4<sup>th</sup> 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