



# DET NORSKE VERITAS

## TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. **A-12367**

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

with type designation(s)

**TFT Displays JH 15T15/15T17/19T12/19T14/20T17/23T12/27T11 MMD, JH 19T14 STD and HM 20T07 MIL**

Manufactured by

**Hatteland Display AS**  
**NEDRE VATS, Norway**

is found to comply with

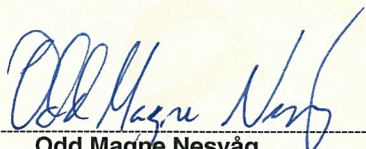
Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards

Application  
Location classes:

Temperature	A*
Humidity	B
Vibration	A
EMC	B
Enclosure	A/IP20

\* Low temperature tested at -15 °C


Høvik, 2011-07-05  
for **Det Norske Veritas AS**

  
**Odd Magne Nesvåg**  
Head of Section



DNV local office:  
**Haugesund**

This Certificate is valid until  
**2015-12-31**

  
**Hanne Paulsen**  
Surveyor

*Snew*

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-12367  
File No.: 899.60  
Job Id.: 262.1-011214-1

## Product description

TFT Displays from Hatteland Display AS, as listed below:

Type	Description	Power supply
JH 15T15 MMD	Maritime Multi Display	115/230V AC / 24V DC
JH 15T17 MMD	Maritime Multi Display	115/230V AC / 24V DC
JH 19T12 MMD	Maritime Multi Display	115/230V AC / 24V DC
JH 19T14 MMD	Maritime Multi Display	115/230V AC / 24V DC
JH 20T17 MMD	Maritime Multi Display	115/230V AC / 24V DC
JH 23T12 MMD	Maritime Multi Display	115/230V AC
JH 27T11 MMD	Maritime Multi Display	115/230V AC
JH 19T14 STD	Industrial Display	115/230V AC
HM 20T07 MIL	Military Display	115/230V AC

The type approved configurations are described by the respective data sheets.

## Application/Limitation

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.

Type	Standard Compass Safe Distance	Steering Compass Safe Distance
JH 15T15 MMD	125 cm – 130 cm	85 cm – 100 cm
JH 15T17 MMD	130 cm	100 cm
JH 19T12 MMD	105 cm – 160 cm	75 cm – 105 cm
JH 19T14 MMD	65 cm – 85 cm	35 cm – 45 cm
JH 20T17 MMD	75 cm	35 cm
JH 23T12 MMD	160 cm	105 cm
JH 27T11 MMD	50 cm	30 cm
JH 19T14 STD	85 cm	45 cm
HM 20T07 MIL	115 cm	70 cm

Compass safe distance differs for the different configurations of displays of type JH 15T15, JH 19T12, and JH 19T14.

## Type Approval documentation

User Manuals:	INB100036-2 Rev.1, dated 2008-11-03, INB100005-3 Rev.11, dated 2008-07-01
Data Sheets:	DS JH 15T15 MMD-xxx-Axxx Rev.07 dated 2008-04-01, DS JH 15T17 MMD-xxx-Axxx Rev.01, dated 2008-10-16, DS JH 19T12 MMD-xxx-Axxx Rev.07, dated 2008-04-01, DS JH 19T14 MMD-xxx-Axxx Rev.02, dated 2008-09-11, DS JH 20T17 MMD-xxx-Axxx Rev.02, dated 2008-09-11, DS JH 23T12 MMD-xxx-Axxx Rev.08, dated 2008-04-01, DS JH 27T11 MMD-xxx-Axxx Rev.06, dated 2008-10-16, DS JH 19T14 STD-AA1-AAAA Rev.02, dated 2008-09-10, DS HM 20T07 MIL Rev.04, dated 2008-06-30
Sales drawings:	A001240, dated 2008-01-04, A001241, dated 2008-01-08, A001242, dated 2008-01-08
DNV Test reports:	2005-3127 Rev.03, 2008-3076 Rev.01, 2008-3142 Rev.01, 2008-3143 Rev.01, 2008-3146 Rev.01, 2008-3190 Rev.02, 2008-3207 Rev.01, 2008-3324 Rev.02, 2008-3528 Rev.01, 2008-3511 Rev.02, 2008-3464 Rev.02, 2007-3008 Rev.01





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Documentation submitted for extension in June 2011:

DS JH 19T14 MMD-xxx-Sxxx Rev.03, dated 2010-10-14  
Technical report 2010-3134 rev.01, dated 2010-04-08  
Technical report 2010-1681 rev.01, dated 2010-11-16  
Technical report 2008-3143 rev.01, dated 2008-03-11  
Technical report 2010-3124 rev. 03, dated 2011-02-22  
Technical report 2009-3097 rev.02, dated 2009-06-26  
Technical report 2009-3442 rev.01, dated 2009-08-11  
Technical report 2010-3421 rev.01, dated 2010-10-05  
User Manual INB10036-1 rev.18, dated 2010-10-07

### Tests carried out

Applicable tests according to Standard for Certification No. 2.4, April 2006.  
Tested and approved according to EN60945, 4th edition.

JH 27T11 MMD is tested for excessive conditions, as required by IEC 60945 Ch.7.2. This test is not performed for the remaining units.

### 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