maris
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ECDIS900

Electronic Chart Display and Information System

Another World First from MARIS!

MARIS ECDIS900 is the first ECDIS in the world to receive a type approval certificate ('Wheelmark') using a Flat Panel Computer (FPC). The MARIS Smart-Line is the only FPC Certified to IEC 60945 for use onboard ships. Using LCD (Liquid Crystal Display) Technology MARIS has revolutionized ECDIS displays on board ships. The TFT flat screens used by MARIS have many benefits over traditional CRT displays.

The LCD is flat with no distortion and minimal reflection, providing better viewing in sunny conditions and the computer outputs no magnetic disturbance or x-rays. The brightness and clarity of the LCD far exceeds existing CRT technologies, offering more comfortable viewing conditions whilst consuming less power, weighing less and taking up much less space. The MARIS ECDIS900 incorporates the latest in technology and not only saves you money on the purchase, but also on freight, installation and service costs.

By adding the MARIS PC Radar Kit, the ECDIS900 can also be expanded to display radar video overlay.

If you also include the MARIS ARPA2000 software package, you have a radar/ARPA system to replace or supplement a traditional radar/ARPA display (slave and master versions are available). Interswitching of two or more radar/ARPAs is done in software, thus avoiding expensive hardware solutions for this function.

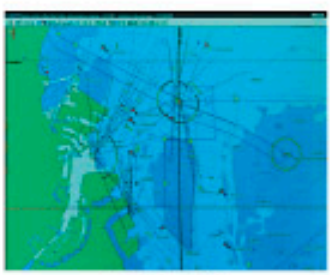
More than 500 ECDIS900 systems have been delivered to end-users in more than 25 countries. This makes MARIS one of the top companies in the world delivering ECDIS and the fastest growing!

MARIS have a 90% share of the retrofit ECDISmarket onboard commercial ships in the discerning Scandinavian market.

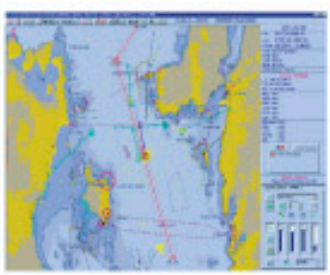
DNV

0575/04

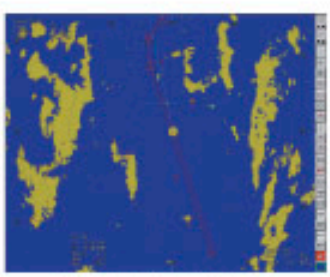
Wheelmark Approved



ECDIS900



ECDIS900 with Radar Overlay



Radar/ARPA2000

Functional Specifications ECDIS900

Charts
- 'Multi fuelled' ENC (S57) and raster capability, including ARCS and BSB-NOAA.
- Compatible with C-MAP worldwide database
- Easy chart access and handling: installs charts along a selected route, instantly switches between different chart databases.
- Instant update on board of ARCS, ENC and C-MAP charts with the integrated and optimized MARIS update service by email.
- Integrated help for paper chart updating using ARCS service: the last updated tiles can be printed out in colour and actual scale.

Route Planning
- Mix great circle and rhumb-line legs, enter different turning radius values and select different XTE limits for each leg.
- No need to plot the same waypoint several times: a new route can be created in one click from a selection of existing waypoints.
- Check the route for dangers and highlight them on the chart.
- Route simulation: passage calculator including ETA /TTG and required speed.

Passage Plan
- Prepare, store and print a passage plan linked to the selected route.
- Passage Plans, compliant in particular with Tanker regulations, are partly filled in by the ECDIS900 (chart numbers and way point positions) and then completed by the navigator manually.

Route Monitoring
- Check safety along the route in real time.
- Continuous display of heading, speed, depth and position.
- Select ETA and monitor the speed required.
- Autopilot and track pilot control.

Navigation Log and Play Back
- Genuine Navigation Data Recorder: stores all navigation events including own ship, AIS and ARPA target positions, speed and course, alarms triggered and acknowledged, chart in use, manual position plotting, manual bearings and events.
- All data is written to a new and secure read only file every 24 hours.
- All stored files may be replayed at any time using the same ECDIS software

User Object Editor
- Complete and correct charts with personal annotations, Work on electronic charts as you do on paper charts with powerful graphical tools: bearing lines, range circles, parallel and perpendicular lines.
- Store your navigation survey work in the logbook.
- Add marks, lines, zones.
- Create User object alarms: crossing a line, entering or moving out of an area and anchor alarms.

Sensor Monitor
- Serial or TCP/IP interface with GPS, Gyro, ARPA radar, Log, Anemometer, Echo sounder etc.
- Download or Upload routes from / to GPS or Radar.

ARPA Target Display
- An unlimited number of ARPA targets can be displayed on the ECDIS

ARPA 2000 (with optional MARIS PC Radar kit).
- Raw radar video can be displayed on top of the electronic chart
- Advanced image processing and numerous video control functions are available to give clear radar picture presentation.
- Advanced Radar ARPA presentation with scan to scan correlation.
- Displays the route made active in ECDIS presentation and can use the same background charts as the ECDIS.

AIS
- ECDIS900 includes an advanced interface to operate any AIS transponder without any additional AIS keyboard and display.
- AIS targets are displayed together with ARPA targets and the AIS targets' CPA/TCPA are calculated and all AIS events recorded in the logbook.
- Easy and efficient handling of incoming / outgoing AIS messages. In one click a standard message may be selected and broadcasted.

Network and data sharing
- All data input, including Radar video, can be broadcasted over a network allowing several ECDISs to access the same data.
- Dual ECDIS system: network based applications ECDIS Master and ECDIS Backup share same data (Sensor data input, Alarms, Active Route and Way point etc).
- ARPA2000 can be installed in the captain's cabin to display the traffic and enabling remote operation of the ARPA software (Option PC RADAR Kit)
- ECDIS900 can be installed in the engine control room to display the chart, own ship and surrounding traffic situation.

DET NORSKE VERITAS

EC TYPE-EXAMINATION CERTIFICATE

Application of Council Directive 96/98/EC of 20 December 1996 on Marine Equipment as amended by directive 2002/75/EC, issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Directorate. This certificate is issued by Det Norske Veritas under the authority of the Government of the Kingdom of Norway.

CERTIFICATE NO. MED-B-1994
This Certificate consists of 3 pages

This is to certify that the product
Electronic chart display and information system (ECDIS)

with the type designation(s)
MARIS ECDIS900
SmartLine Flat Panel Computer Mk 5

Manufactured by
Maritime Information Systems AS (MARIS)
TØNSBERG, Norway

is found to comply with the requirements in the following Regulations/Standards:
Annex A.1, Item No. A.1/4.30 and Annex/B,Module B in the Directive, SOLAS 74,Reg. V/18.1, V/19.2.1.4, V/19.2.1.5, 2000 HSC Code13.8,13.17.1, IMO Res.A.813(19) as amended by MSC.64(67) Annex 5 and by MSC.86(70) Annex 4, IMO Res.A.694(17).

Further details of the product and conditions for certification are given overleaf.

Place and date
Høvik, 2003-10-17
for DET NORSKE VERITAS AS

Henning B. Karlsen
Manager, MTP/OTD
Department Systems & Components

Notified Body No. 0575

This Certificate is valid until
2008-10-17

Jan Tore Grimsrud
Surveyor

DNV local office:
DNV Sandefjord

maris

Marine Equipment Directive
Declaration of Conformity

0575/03

DET NORSKE VERITAS
QS - CERTIFICATE OF ASSESSMENT - EC

About MARIS:

MARIS is a private limited company with head office in Tonsberg, Norway a recognised centre for maritime information technology. Among its owners are major shipping companies, two of the largest capital investment funds in Norway and the management personnel.

MARIS's roots go back to the start of the maritime information technology explosion of the mid-1960s. MARIS is a system house with world-class experience in maritime on-board systems.

Innovative engineering from people in MARIS has added several 'world firsts' to the global list of milestones. The digital radar tracking system has led to sales of tens of thousands of Collision Avoidance Systems (CAS) and the digital coastline generator has formed the basis for Ship's Bridge Simulators delivered to more than 70 countries. Other world firsts are approved PC radar/ ARPA, IEC 60945 Flat Panel Computer and IEC 61774 ed. 2 certified ECDIS.

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