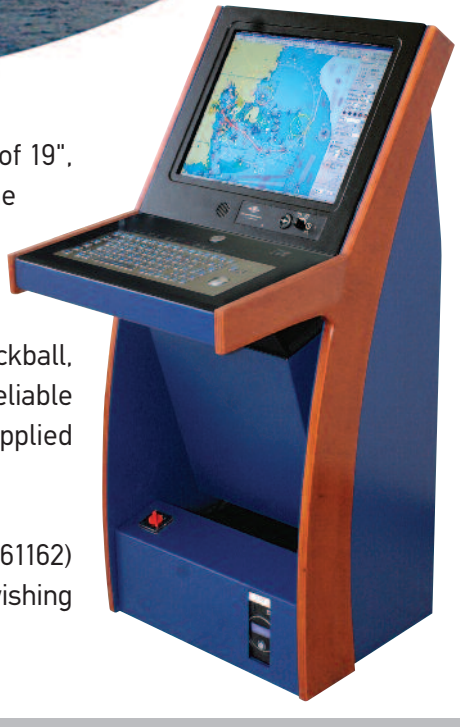
INTERMARINE ELECTRONICS

ECDIS *NAVIGATOR I, II & III*

INNOVATIVE LOW COST INTELLIGENCE NAVIGATION SOLUTION

ECDIS *Navigator I, II & III*, are full scale systems offering superior precision navigation capability and are the most powerful and reliable ECDIS in the market with innovative features.

Using state of the art advanced technology based on latest high performance Intel CPU i5-i7, offers a vast array of advantages to the navigator and it is the most sophisticated and reliable system of its kind. It is a fully redundant high-tech navigation system that allows the ship to operate without paper charts onboard.



A High-resolution & High-definition (HD) LED technology TFT color displays of 19", 23" & 24" inches, have been manufactured to meet tough challenges of maritime environments and applications. Are produced for easy maintenance and parts replacement onboard and have been assembled in our ISO 14644-1 clean room.

An anti-vandal military grade stainless steel keyboard is fully equiped with trackball, backlit dimming control as well as with an ECDIS alarm device for easy and reliable operation. For handling remote operation an additional wireless trackball is supplied as standard.

An intuitive, stand alone interface unit, having full duplex 8 input & 8 outputs (IEC61162) is designed for easy installation and configuration. Suited to all types of vessels wishing to benefit from the latest innovative well-designed ECDIS technology.

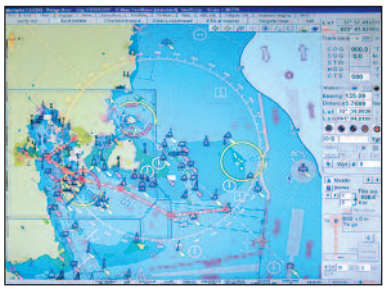
When Quality Reliability & Price is your main concern then choose us

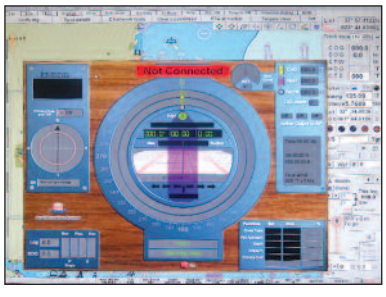
LOW COST SERVICE AND MAINTENANCE

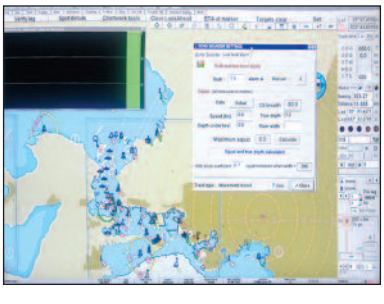
Although the cost of after sales support is not always considered at Initial purchase, today have became a very important issue to the maritime industry. Our ECDIS has been developed based on extensive experience in the marine Industry with several novelties in marine electronics that increase reliability and **dramatically reduce the cost of after sales service by more than 90%.**

In case of ECDIS malfunctions our exclusive "One Key Recovery" tool provides an auto recovery function, that allows ECDIS system to be automatically restored after encountering blue screen of Death (BSoD), hang up, data lost or disk format. Moreover, our innovative encrypted hardware remote control will provide fast and efficient problem - solving capabilities.

• It is a plug and play system where all units are connected to each other with prefabricated dissimilar plugs. Are pre-configured and do not require any kind of set-up thus simplifing installation and enabling ship's crew to replace units easily in few minutes.







• All ECDIS units including the TFT monitors are of the highest quality and Durability. They have been manufactured based on the latest industrial standards for easy access to low cost spare parts and long term availability.

• Various measures have been taken to keep systems operating temperature at a very low level. Moreover there are additional thermal sensitive standby cooling fans that activated only in areas of very high temperature thus increasing the Mean Time Between Failure (MTBF). The rule is that for every 10 degrees of temperature rise, life of the component is halved.

• All power supplies of the system are capable to delivery five times more power than needed to run the system and are fully protected against overvoltage, overcurrent, overload, overtemperature and short-circuit with automatic recovery.

• Critical data like O/S, Chart handler and Chart data are stored in the latest removable SATA III high speed Solid State Disk that greatly increases reliability of the system.

• Ethernet network link gives a high-speed data sharing to other ECDIS thus automatically synchronize user settings, charts and navigation sensor information.

• The Conning Display gives useful overview for the main navigational and engine sensor data.

• **We have established a Global Service Network in various ports worldwide.**

• **Intermarine's technical department is always standby 24/7/365 to provide the best personal technical support using multimedia communication even-when the supply of our ECDIS is via a third party.**

Navigator chart handler powered by Microplot

Navigator is a well proved intuitive and easy to use "**Dual Fuel**" Chart Handler made by mariners for mariners, first introduced in 1987. Has been upgraded several times including the latest C-map kernel in 2013. Reads official encrypted (S-63) ENC´s (vector charts) as well as raster-chart data, (ARCS), SEAFARER, BSB,NOAA. Operates with all major official S-57 chart formats from hydrographic offices, thus offering a high degree of freedom to the customers.

KEY BENEFITS of *Navigator chart handler*

The user-friendly interface is designed with the mariner in mind offering quick and easy to use menus, easy to learn and maintain with unique on line features and with a "built in" user manual and online help.

Simple low cost, update and maintenance of charts via internet, email or CD.

Audio and visual alarms to alert users of potential groundings, collisions, cross-track distance range being exceeded and/or the loss of sensor data.

Total situation appraisal on one integrated display, chart, ARPA and AIS target eliminating the need to move between instruments.

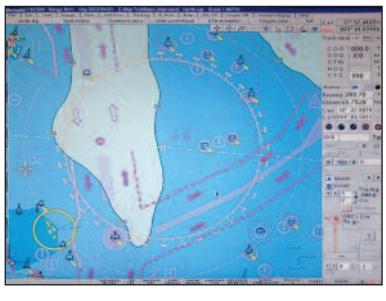
Conning Display gives a useful overview for the main navigational and engine sensor data.

Track Control System when connected with autopilot.

- Integration with official worldwide tidal data and Navtex
- Ergonomic menu-driven operation
- Dynamic chart licensing
- Easy chart installation and updating
- Advanced image processing
- Greatly reduces work load in the production of voyage plans
- Primary and secondary ships position
- Head up / course up, True / Relative motion
- Dead reckoning
- Passage plan
- Information relating to dangerous objects on charts
- Safety Checking and Warning
- Object editor for user information
- Plan speed and direction with Auto pilot management
- Navigation Data login with playback facility
- Head-UP/North-UP/Course-UP
- Accurate real time positioning
- Berth-to-berth route planning and monitoring
- Alternate Display
- Great circle calculations
- Data login with playback facility
- Depth check with safety contour
- Dynamic database for tidal, data stream, data ICE charts (0)
- Bathymetric displaying echo graph
- Anti-grounding and ARPA control
- Network data share
- 3D modeling
- Dual display
- Search and rescue function / Man overboard mode
- Display of Chart Updates
- Complete Voyage Recording including past Track
- Ten-level day or night display modes
- Radar overlay (optional)
- Printing capabilities
- Weather overlay (optional)

Training & Certification

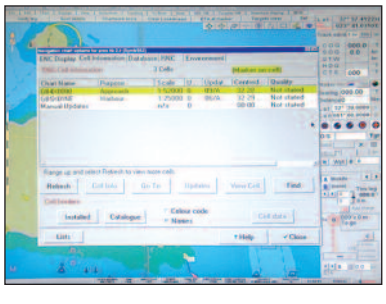
Currently we provide "Type-specific" ECDIS training courses and certification by Supplemental computer-based training (CBT) using CD-based programs, or onboard ship during installation and while underway. Generic training and certification are available in various locations around the world by MarineMTS UK, a qualified leading ECDIS trainee provider.



Paperless Navigation

We offer various configurations for fitting a vessel with two ECDIS system in order to comply with requirements of various flag states and area of operation.

- Save money by eliminating the cost for paper charts
- Save fuel by optimizing route and voyage planning
- Save cost for manual chart corrections
- Improve safety and ship's efficiency
- Avoid officers workload and overtime
- Avoid delays and trouble with port state control



Made by mariners for Mariners

INTERMARINE ELECTRONICS

ECDIS *NAVIGATOR I, II & III*

INNOVATIVE LOW COST INTELLIGENCE NAVIGATION SOLUTION

Technical Specifications			
ECDIS MODEL	NAVIGATOR I	NAVIGATOR II	NAVIGATOR III
Installation type	Table top - Bulk head - Console pedestal		
Dual workstation duplicate	Yes		
Display	19"	23"	24"
	LCD TFT	LCD TFT	LCD TFT
	IME 5019	**IME 5023**	**IME 5024**
Resolution	1280 x 1024	1600 x 1200	1920 x 1080
Viewable angle	+/- 85 deg. (typical)(up/Down/Left/Right)		
Maximum colors	16.7 millions (depending on graphics card)		
Light Intensity	250/350 cd / m2 (typical)		
Contrast ratio	500:1 (typical)		
Dimming range	0 – 100%		
Alarm	Buzzer		
IP Rating	IP 65		
Dimensions mm (W D H)	485 x 95 x 448	590 x 95 x 24	617 x 95 x 435
Main Unit	**IME 5000**		
Processor	Intel® i5/i7		
Memory	(2 x 2GB) Dual Channel DDR3 DIMMs		
Motherboard	IME 67 Integrated with encrypted hardware remote control and "One key recovery" tool		
Graphic	Supports DirectX 10.1/OpenGL 3.0 Full MPEG2, VC1, AVC Decode Integrated in IME67		
Video Output	1 x VGA, 1 x HDMI, 1 x DVI-D		
Hard Disk	1 included, up to 4 Replaceable SSD 120GB or more* 2.5/3.5" SATA III		
Serial inputs	9 x RS-232, 1 x RS-422/RS-485		
CD / DVD	Multidrive		
USB ports	12 Supports 2.0 & 1.1, 2 x 3.0		
Ethernet	3 x 100/1000Mbps, Intel® 82574L/Intel® 82579 PHY		
Serial ATA	4 x SATA 3Gb/s, 2 x SATA 6Gb/s channels		
Super I/O	Controller Fintek F81866		
Digital I/O	24-bit, 12-bit input/12-bit output		
Slots	1 x PCI (1x PCIe x 4) (1 x PCIe x16) (1 x PCIe x1)		
TPM	2 x 10-pin pin header Trusted Platform Module		
Dimensions mm (W D H)	360 x 175 x 420		
Keyboard	**IME 5100**		
Type	1 x antivandal stainless steel keyboard, equipped with trackball, dimming control and ECDIS alarm device with illuminated alarm push button		
Dimensions	490 x 65 x 420		
Interface	**IME 5200 - IME 5300 Optional**		
8 x NMEA Ports Opto isolated	5200 INPUT: RS-422 & RS-485, OUTPUT: ETHERNET full duplex 5300: INPUT: RS-422 & RS-485 & RS-232, OUTPUT: RS-232 Optional		
Dimensions mm (W D H)	31 x 22 x 8		
Power Supply			
Input	95-230V AC, ±10% 50/60Hz ±5% (24VDC optional)		
Power	150W		
UPS	Stand alone (800VA)		
Navigator Chart Handler			
Chart Compatibility formats	ENC S-57, S-63 (IHO), SENC (C-MAP), ARCS (UKHO), AUSHO (SEAFARER), NOAA BSB		
Conning display	Included in Navigator Chart handler		
AIS and TT display	YES		
Route transfer / store / verification / tracking record	YES		
RMS	YES		
AVCS Pre installation	YES		
Data transfer VIA LAN	YES		
Enviromental			
Operating/storage temperature	-20°C to +60°C		
Relative humidity	10%~95%, non-condensing		
Software	1 x Microsoft® Windows® Embedded Enterprise / XP Professional ENG SP3 32bit		

**Technical Specification might change without notice*

DEALER

Intermarine Electronics S.A.

EN ISO 9001

16 Ag. Saranta str. Piraeus, Greece, 183 46, Tel.: +30 210 4813200 – Fax.: +30 210 4834257
www.intermarine.gr • sales@intermarine.gr