

DiNIS Component Specifications :

System Depth Rating: 100 m

Navigation Components

Doppler Velocity Log :

Frequency: 600 kHz;

MEMS AHRS:

Sensor Roll Rate: 200 °/s ;

Max Heading Error : 0.8 ° (2 ° in magnetic environment)

Pressure sensor Depth:

Precision: 0.1m; Accuracy: 0.5 m

GPS: Commercial Grade OEM with optional deployable antenna or optional dual frequency SAASM

Navigation accuracy (typical):

DVL only:

0.3% of distance +/- 1m*

DVL aided inertial (best case):

0.25% of distance +/- 1m* + heading error

Typical CEP Error in normal conditions ranges 0.1% to 2.2% of distance traveled, bottom-lock dependent

Pitch-roll sensor range:

With 2-D cal: up to +/- 20 degrees

With 3-D cal: up to +/- 180 degrees

***Assumptions :**

- ✓ Calibrated heading at start
- ✓ initial position fix accuracy; 10 cm.
- ✓ Circular or out-and-back swim path
- ✓ Ideal conditions (no drift, magnetic fields, constant pitch/roll attitude)
- ✓ Constant DVL Bottom Lock

Sensors and Batteries

Forward looking sonar:

Blueview DF900-2250, dual Frequency, 900 kHz/2250 kHz

Low-light video camera:

Resolution : 800TVL

LED Camera Lights

Battery Type: Lithium Ion (standard); Lithium Polymer (low mu) (Option)

Battery Capacity: 6 hrs (std per battery) 12 hrs with 2 batteries. (Lithium)

Underwater swappable to allow extending mission time

Housing materials: Non-magnetic for primary housing and components
Aluminum sonar, camera, and battery housing

Display:

Backlit TFT LCD

Resolution: 1080p

Display size: 10.1"

Data storage capacity:

USB to SSD *

Solid-State Disc Drive:

512 GB (Std);

Internal storage optional to 64 GB SD or up to 1 TB SSD

- USB and solid state disc size subject to change

“DiNIS”™

Diver Navigation and Imaging System



- Underwater Waypoint Navigation
- Underwater Reconnaissance and Bathymetry
- Sonar and Video Imagery
- Tactical Planning and Decision Making
- Military and Commercial Applications

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DiNIS

Diver Navigation System

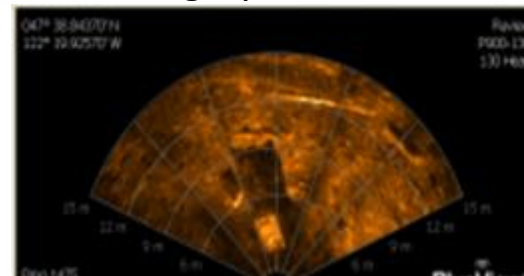
Kenautics' Diver Navigation and Imaging System (DiNIS) is a high-performance, highly integrated, hand-held diver navigation unit, designed for the demanding needs of:

Users

- Military Special Forces
EOD, SEALs, Recon, Q-Routing
- Law enforcement
- Search and rescue
- Salvage
- Inspection
- Scientific research.

Applications

- Waypoint Navigation
- Bathymetry
- Sonar Imagery
- Video Imagery



Built with Military Special Forces in mind

BlueView Sonar imagery

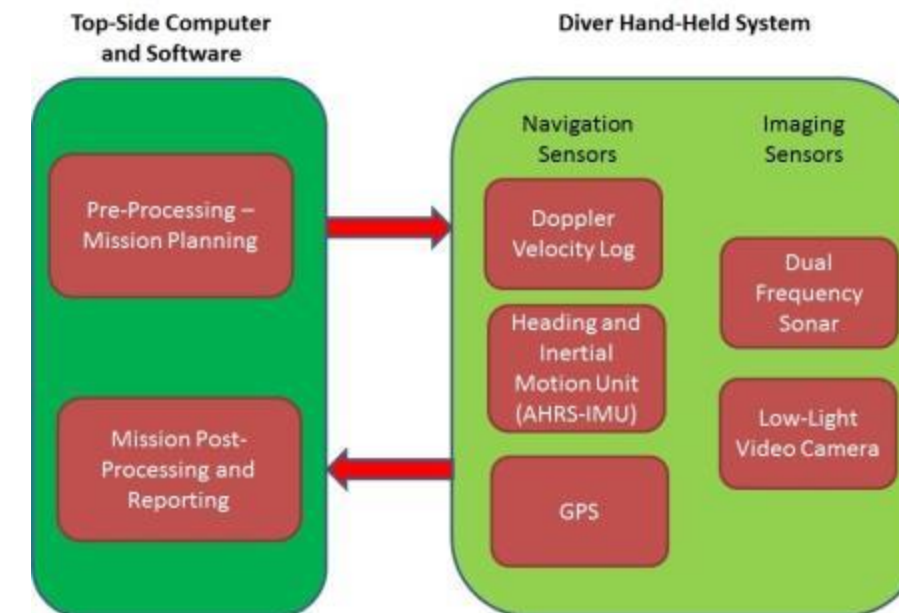
DiNIS has unique functionality when used for Special Operations missions. Purpose-built for both EOD and SOF missions, DiNIS data and mission plans are directly compatible with Top Side Mission Planning and Post-Processing software, allowing dive planning and multi-asset mission analysis. DiNIS can be made compatible for "Common Operator Interface Navy (COIN)", compatibility. This allows for rapid situational awareness and mission planning with Post-Mission analysis overlays of large numbers of Diver, AUV, ROV, or hydrographic survey missions, all simultaneously, without requiring data conversion or lengthy uploads.

With a removable and swappable solid-state disk and underwater USB memory stick, all mission data, navigation track, bathymetry, video, target marking, and other Intelligence, Surveillance, and Reconnaissance (ISR) data can be at the fingertips of both special operators and command posts within minutes of a diver surfacing.



DiNIS provides the diver with a complete suite of commercial underwater sensors for the purpose of waypoint navigation and underwater reconnaissance:

- Single and dual-frequency sonar systems from either Teledyne BlueView (M900/2250) or TriTech (Gemini 720ik)
- Complete navigation sensor suite including Teledyne RDI Doppler Velocity Log (DVL), GPS, inertial sensors and MEMS Gyro, Pressure sensor, and low magnetic influence heading sensors
- Low-light color video camera (Options available for Wide Dynamic Range (WDR) and Black & White/IR)
- Underwater USB memory stick and solid state data storage devices
- Deployable GPS Antenna for shallow water GPS fix while submerged (Optional)
- External video ports for Heads Up Display (HUD)
- Additional sensor and I/O ports to allow for future system expansion
- Diver "Marking" & "Tagging" with automatic geo-referencing of targets of interest
- Connectivity to top-side computer for extensive system diagnostics, updates, data transfer, mission planning, and general software maintenance or firmware flashing



Mission Planning and Analysis

DiNIS is differentiated from other diver systems by its unique architecture, integrating all sensors through a single central controller board and a single Graphical User Interface, allowing:

- Single point control of all sensors
- Interoperability of all acoustic sensors with minimal interference
- All data is correlated, tagged with common time-stamp and geo-referenced
- International Language Support, allowing divers to operate in their native language
- Operator defined tags to allow informative and dynamic target marking

Interactive Top Side mission planning and post-processing software allowing multi-asset and mission data overlays and analysis, providing enhanced value to the military end user.

