EcoMapper AUV

GENERATE HIGH-RESOLUTION MAPS OF WATER QUALITY, WATER CURRENTS, BATHYMETRY, AND SONAR IMAGERY

YSI introduces a unique system for collecting water quality data. The i3XO EcoMapper™ AUV (Autonomous Underwater Vehicle) with EXO sensors provides researchers and scientists with a data collection platform unmatched in its flexibility and capability. This vehicle can measure water quality, currents, and bathymetry at a continuous interval for missions ranging from 8-12 hours long.

Features Include:

- Vehicle is easily deployed by one person
- Wide-area survey without a workboat or associated staff
- Intuitive mission-planning software for quick and easy survey design and execution
- Undulation through the water column provides data in both the horizontal and vertical planes
- Geo-referenced data
- Options to measure up to 8 water quality parameters, bottom mapping, and water profiling
- Reliable autonomous platform with DVL

- Robust and simple to use – minimal operator training
- Bow with integrated sensor package includes YSI's water quality sensor bulkhead, and depth sounder
- Rugged, lightweight carbon fiber and marine-grade aluminum construction
- Launch from the shore or small boat
- Li-Ion batteries = long run-time and quick recharge
- Near-coastal operating depth – bays, rivers, lakes (to 328 ft depth)
- Built-in moisture detectors

"Once deployed, the EcoMapper communicates while on the surface and acquires a GPS fix at waypoints identified in the mission plan."

"Screenshot from VectorMap mission planning software showing a "lawnmower"-style mission path drawn onto image of saltwater lagoon."

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EcoMapper AUV Specifications

Dimensions	
Length	60-85 in, Standard
Tube Diameter	5.8 Inches
Weight	70 lbs, Standard
Depth Rating	100m (328 ft)
Endurance	8-14 hours at 2.5knot speed; configuration dependent
Speed Range	1-4 knots (0.5-2.0 m/s)
Communication	Wireless 802.11g Ethernet standard (Iridium optional)
Antenna Mast	Navigation Lights, with IR and Visible LEDs (programmable strobe)
Tracking Internal Data Log; Software	Programmable Resolution
Navigation	Surface: GPS (WAAS corrected). Subsurface: RDI Doppler Velocity Log(DVL), 81M range, depth sensor and corrected compass
Software	
Vector Map	Mission Planning and Data Viewing
Sonar Mosaic	Processes sonar records for overlay to Vector Map
Bathymosaic	Creates GeoTiff images of a side scan records and KMZ files for Google Earth
Underwater Vehicle Console (uvc)	Operation, run, mission, remote control
Energy	800 WHrs of rechargeable Lithium-Ion batteries, (swappable section)
Onboard Electronics	Intel Dual Core 1.6 GHz N2600 processor with MS Windows embedded; Up to 512 GB solid state drive for data storage
Propulsion System	48V Servo Controlled DC Motor with 3-blade cast bronze propeller
Control	Four independent control planes (Pitch/ Yaw Fins)
Charging	24V External Connector with USB 2.0 supports
Sonar Side Scan	
Tritech Starfish	Single frequency 450kHz
Communications	Surface: 2.4 GHz telemetry radio for Handheld Remote; and/or Iridium with cloud based tracking software
Handheld Remote Controller	Touch screen based remote with joystick for surface control (300 meter + range)
Acoustic Pinger	Underwater locator beacon
Rugged Transit Case	With custom foam inserts for Iver3, includes collapsible AUV field stand
Field Rugged Operator Console	Getac for mission planning, operating and data viewing
GPS Compass Stand	High accuracy, land based AUV calibration tool
Object Advance Sounder	Imagenex 852 forward looking echo sounder in AUV bow
Other Options	Iver3 Spares Kit, Swappable Battery Section w/ tail

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