

UD-GARC UNMANNED SURFACE VESSEL



- Affordable Class 1 USV platform ready for a range of defense & security missions & payloads
- Capable, rugged, and proven for littoral & offshore service including surf zone and very shallow water
- Hull optimized for speed, endurance & stability allows for surf zone and heavy weather operations
- Large adaptable & modular payload bay with moon pool and hull mounting available
- **MAPC2** Control System provides intuitive & safe remote control, route following, target interception & tracking and supervised autonomy with advanced perception and collision avoidance options
- Available for lease or purchase with operations, maintenance, and training services available



UD-GARC KEY SPECIFICATIONS

Hull Dimensions:	15'8" (4.8M) Length Overall x 5'8" (1.75M) Beam Overall
Full Load Displacement:	3,600 lbs. including fuel and payload
Payload Capacity:	1,000 lbs.
Diesel Fuel Capacity:	100 Gallons Standard (150 and 200 gallon options available)
Propulsion Systems:	Volvo Diesel, 200 HP D3 with DPS Outdrive, standard (140-220 HP range available) <ul style="list-style-type: none">• Gasoline and waterjet propulsion (optional)
Speed & Range:	35+ knots top speed, 400+ nm range @ 30 knots, 700+ nm range @ 6 knots
Seakeeping:	Sea State 4 operable, Sea State 5 survivable
Transportability:	Trailerable, Air Droppable, Shipboard L&R Compatible
Control System:	MAPC2 Unmanned Control System with multiple control modes (see reverse page) <ul style="list-style-type: none">• Open architecture integrates easily with 3rd party or GFE software and hardware
Communications:	<ul style="list-style-type: none">• Line-of-Sight IP Radios offers up to 10 nmi range at up to 50 Mbps ¹⁾• Satellite Radio offers global coverage at up to 4 Mbps• Layer-3 Router with automatic fail-over capability for redundant communications <small>¹⁾ Range and throughput is dependent on radio selection and antenna placement</small>
Power Generation:	<ul style="list-style-type: none">• 12V & 24V DC power up to 4.2kW available (standard)• High power DC & AC, Hydraulic PTO and high voltage AC and DC systems (optional)
Mission/Payload Options:	<ul style="list-style-type: none">• ISR - EO/IR Systems, Radar, SIGINT• Comms Relay – Tethered Comms Relay Systems Including TALONS-SU• SUW - Remote Weapons Systems incl. MK50 GWS, GAU-19, Griffin & Hellfire Missiles• ASW – Hull Mount Sonar, Dipping Sonar, Towed Array Sonar, Sonobuoys• MCM – Mine Detection, Mechanical Sweep, Neutralization• Offboard Vehicles – UUVs, ROVS, Tethered or Untethered Aviation System

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MAPC2 Control System Overview



MAPC2 consists of modular, open architecture software and hardware components available in a turnkey system on UD-GARC or as a retrofit kit for your preferred vessel.

Hardware includes redundant, safety critical autopilot controller and hull machinery and electrical (HM&E) controller plus actuators and electronics interfaces to SAE J1939, NMEA0183/2000, CANbus, Ethernet and other analog and digital systems typical of commercial vessels. All components are built to stand up to the harsh marine environment.

The Command and Control elements include the MAPC2 software running at a remote command station and ISO 13849 PLd Cat 3 wireless emergency stops and hand controllers to ensure safe operation during at sea launch and recovery and for close quarters maneuvering.

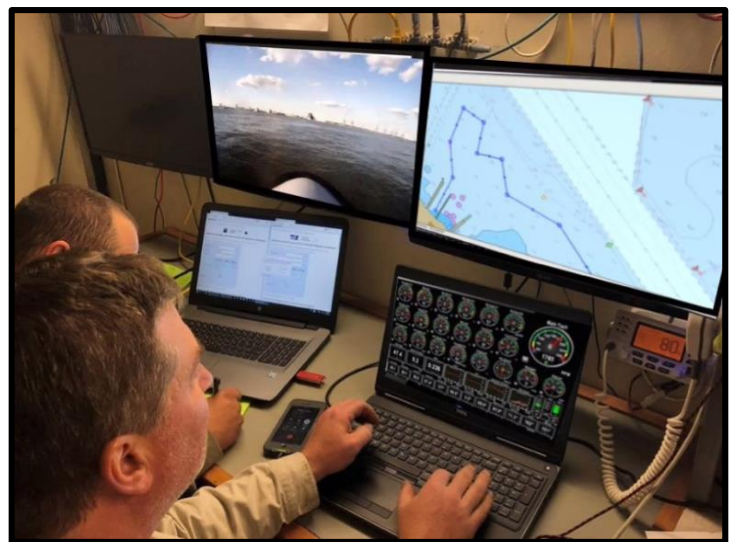


The system can be used from the Command Station for remote control, route following, loitering modes and more, with real-time situational awareness data streamed for safe navigation. Advanced perception, collision avoidance, and autonomous behaviors to minimize operator workload are available options.

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| Compatibility | <ul style="list-style-type: none">• Modular Open Systems Architecture software easily integrates with 3rd Party Payload Software• Compatible with array of Remote C2 software and onboard Platform and Mission Autonomy software |
| Onboard Sensors | <ul style="list-style-type: none">• GPS, DGPS, Inertial Measurement Unit, Radar, AIS, Meteorological Station, Health & Status• 360° Cameras & Stabilized EO/IR Camera• LIDAR & Other Advanced Sensors Available |



Direct Control and Emergency Stop From Safety Vessel Via Intuitive Hand Controller



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