Nautic Technologies

– Nautic Technologies' controlled buoyancy capability provides precise underwater depth and trim management for both individual operators and weight-bearing subsurface assets operating in dynamic mission environments. The system enables automatic maintenance of predetermined depths and level fore/aft trim despite changing payload weights, equipment configurations, or mission-phase transitions. This is particularly advantageous during time-critical extraction and recovery operations where mission loads may vary significantly between insertion and extraction profiles. The technology is designed as a modular and adaptable capability, suitable for integration within diver-worn buoyancy systems or tethered to existing underwater mobility platforms, sleds, trailers, and mission equipment. Depth Hold / Station Keeping operation and a stable underwater control profile enhance discretion, reduce operator workload, and improve overall mission efficiency, safety, and endurance in contested maritime environments.







- Addresses critical underwater survivability and capability gaps in high-risk maritime operations
- Maintains precise depth control and level trim despite changing payloads and mission configurations
- Supports diver-worn systems, weight-bearing subsurface sleds, and existing underwater mobility assets
- Enables stable, horizontal depth hold plane underwater operation during insertion, mission execution, and extraction phases
- Reduces operator workload and cognitive burden associated with manual buoyancy and trim management
- Enhances mission endurance, underwater stability, and operational efficiency in dynamic subsurface environments
- Improves safety margins through automated buoyancy response and controlled emergency ascent capability
- Modular and adaptable architecture integrates with existing military diving and underwater systems
- Sovereign Australian-developed capability aligned to future Defence maritime operational requirements

AUSTRALIA

OUR TECHNOLOGY & PRODUCT

KEY FEATURES

✓ **Depth Hold**: automatically maintains a diver-commanded depth setpoint throughout a dive

✓ **Maximum Depth Limiting**: prevents descent beyond a diver-configured ceiling

✓ **Automated Emergency Ascent**: performs a controlled, rate-limited ascent to the surface, triggered manually or by a max-dive-duration timer

✓ **Manual BCD operation** always remains fully available: automation is additive, never a replacement for diver training or control

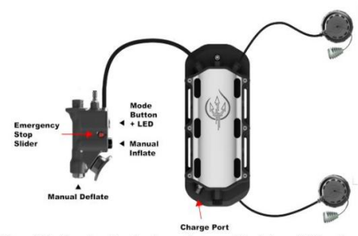
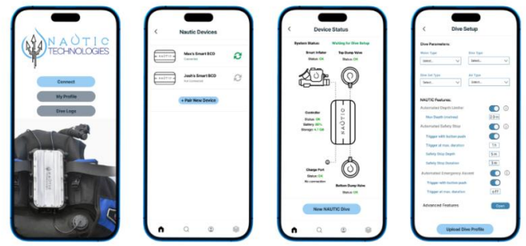


Figure 1 Nautic subsystem hardware diagram without donor BCD vest.



Discriminators

- Integrated Emergency Response: Built-in fail-safes trigger automatic ascent in critical scenarios
- Real-Time Monitoring: Tracks diver vitals and environmental data for immediate decision-making
- System Redundancy: Dual-layer safety architecture reduces single-point failures
- Plug-and-Play Compatibility: Seamlessly integrates with existing dive systems (SCUBA/rebreather)
- Mission-Critical Design: Engineered to meet Defence-grade durability and reliability standards
- Australian-Owned IP: Sovereign capability supporting AUKUS and local Defence industry growth
- Human-Centered Engineering: Reduces cognitive load on divers under pressure
- Dual-Use Potential: Applicable to both military and commercial/rescue diving operations
- Modular Architecture: Enables scalable upgrades and customisation for specific mission profiles

Support & Sustainment:

- Full through-life support strategy developed, including user training and operational manuals. Remote diagnostics and software updates. Component servicing, spares, and upgrades.

Contact Details

Robert Lee
Chief Operations, Nautic Technologies

M: +61 437 862 698
E: robert.lee@nautictechnologies.com.au
Warnbro, Western Australia 6169, Australia

Josh Lee
CEO & Founder, Nautic Technologies

M: +61 438 192 984
E: josh.lee@nautictechnologies.com.au

www.nautictechnologies.com.au