# Autonomous Control
VideoRay CoPilot RI by SeeByte

CoPilot Reacquire and Identify (CPRI) performs target reacquisition and identification missions in support of amphibious landings, mine countermeasure (MCM) operations, underwater forensic investigations, and harbor and shipping lane (Q-route) clearance.

VideoRay Cockpit: Provides ROV telemetry including video, water temperature, ROV health indicators and more
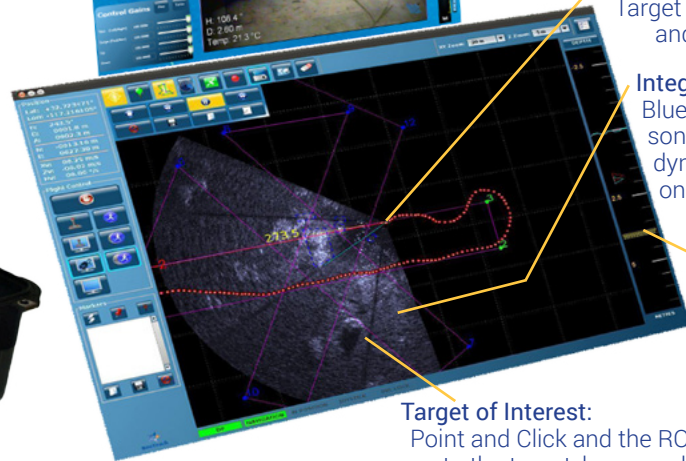
ROV Location: Target range, heading, and degrees

Integrated Sonar: BlueView V-130 sonar imagery is dynamically overlayed on chart

ROV Depth & Altitude

Target of Interest: Point and Click and the ROV will automatically go to the target, hover and hold station

CPRI is Common Operator Interface (COIN) and SeeTrack™ compliant, allowing for the automated geodetic processing of AUV, Side Scan, Tow Fish, diver, and GIS data to maneuver autonomously to pre-designated underwater locations.

Easily transported by small boat or RHIB to a secure GPS launch point, CPRI can safely investigate underwater objects of interest in a Mine Danger Area (MDA). CPRI self-propels and navigates using pre-planned data to commence target reacquisition and identification with high definition sonar and low light video. CPRI allows personnel to maintain a safe standoff distance from hazardous items, keeping the diver out of the water and giving the operational

commander safe additional capacity for limited diver resources.

While other ROVs provide some limited search capability, CPRI takes this capability to the next level, allowing personnel to specify a particular area to be searched and enables the ROV to perform the search autonomously.

VideoRay CoPilot RI
Autonomous Control

CPRI can perform a wide range of underwater search missions and relay information in real-time to provide the following immediate benefits:

- Autonomous Localization, Identification, and Reacquisition of mine-like threats
- Common Operator Interface Navy (COIN) compliant to provide mission planning, real time monitoring and post-processing software tool kit for rapid on-site analysis and fusion of sensor data, including side scan sonar, imaging sonar, and video from unmanned, towed, tethered systems and autonomous underwater vehicles (AUV)
  - *COIN is integrated with the U.S. Navy's Mine Warfare and Environmental Decision Aids Library (MEDAL)*
- Pre-programmable to conduct lawnmower trajectories and provide high-resolution sensor data to assure a 100% coverage rate with point and click target marking and reacquisition
- Rapidly assess and mitigate underwater hazards without placing a diver in the water or unnecessarily tagging out a ship
- Removes divers from in water searches to reduce exposure to underwater hazards or "Time-on-Target"
- Frees personnel for other tasks reducing manpower requirements
- Man-portable for rapid, easy deployment
- Low maintenance
- COTS system with 3,500+ ROVs sold and delivered worldwide
- Established logistics and maintenance support capabilities

Configuration includes:

Doppler Velocity Log (DVL)

BlueView V-130 sonar

VideoRay integration (DVL and BlueView sonar)

CoPilot RI software

Software features include:
- Manual, Station-Keeping, Survey, Auto Altitude, and ROV Cruise Mode or "in situ" human interrogation
- Navigation fuses GPS and Velocity updates from DVL to provide precise Latitude / Longitude or relative position updates with video text overlay
- Import and export object locations and sortie plans using Common Operator Interface Navy or SeeTrack™
- Simple point-and-click PC interface over charts to command ROV
- One click "Go to Target" automation
- Streaming target relative velocity data
- On surface GPS updates and submerged DVL relative to seabed precise bottom tracking
- Full integration with VideoRay Cockpit software
  - *VideoRay Pro 4 ROV system required - NOT included.*

ROV Size: 23" x 12" x 15" (58.5 cm x 30.5 x 38)

ROV Weight: 25 lbs. (11.5 kg) - Easily launched and recovered by one person without assistance.

Power: Operates on 800 Watt Power Supply 100-240 VAC (auto switching) or 12 V DC Inverter. In line tether voltage of only 75 volts.