



Remotely Operated Vehicles

www.videoray.com



Photo: Andrew Johnson

VideoRay is the largest volume producer of Underwater ROVs (Remotely Operated Vehicles) in the world. Established in 1999, VideoRay has worked with technology and mission partners throughout the world to develop and prove the small ROV tool for a wide range of applications.



6 Pro 4 ROVs • 24 hours a day
50,000+ hours of video recorded

Costa Concordia Salvage Project - Isola del Giglio, Italy
Titan Salvage and iROV Underwater Services



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Company OVERVIEW



“WE HAVE OPENED A DOOR THAT
WILL NEVER BE CLOSED AGAIN”

— GEORGES HOUOT + PIERRE WILLM

VideoRay LLC

VideoRay is the largest volume producer of Underwater ROVs (Remotely Operated Vehicles) in the world. Established in 1999, VideoRay has worked with technology and mission partners throughout the world to develop and prove the ROV a tool for a wide range of applications.

With over 3,750 systems delivered to a diverse group of organizations for a variety of missions, hundreds

of VideoRays work every day throughout the world, finding and retrieving objects, inspecting infrastructure both inland and offshore, keeping us free from terrorism, and keeping divers safe from hazardous conditions.

We pride ourselves on industry-leading, easily operated and maintained underwater robotic systems and customer support.

Underwater VISION

RELIABILITY

In the world of rapidly developing underwater ROV technology, reliability can be a real challenge. An unreliable ROV is a poor investment if you cannot be certain that it will work when you need it most. VideoRay's reliability is well known throughout the industry and one of the many reasons we are the leading Observation ROV manufacturer. Whether you need your ROV every day, or shelve it for months at a time, you can be sure that your **VideoRay will work the way you need it to**, every time.

There are VideoRay ROV systems still in service a decade after delivery. Our ROVs require minimal maintenance, and we promise a quick turnaround when your system does need service. We engineer our systems to withstand a wide range of operational environments for extended periods of time. The nearly indestructible float block, Kevlar-reinforced tether, and CERAKOTE finish protect your ROV, ensuring continued success for years to come.

EASE OF USE

We make our systems and software easy to understand, use, and maintain. With minimal training, operators can quickly become seasoned, confident ROV pilots. Our goal is to have **self-sufficient operators** who can conduct successful missions, even if they experience minor setbacks. The easier an ROV is to understand, the easier it is for you to extend ROV capabilities throughout more of your organization. VideoRay has adopted the concept of modularity in our ROVs that makes it easy for the operator to add or subtract tools as needed.

ROV operators can take advantage of training courses led by VideoRay certified instructors, who teach basic operational skills and maintenance practices. In addition to our comprehensive owner's manual, a multi-part training video is included with every ROV purchased.

PORTABILITY

Portability is an essential element of VideoRay's ROV designs. Whether you are operating in remote areas or tight spaces, the ROV's portability allows you to accomplish your mission in otherwise difficult situations. **True portability is more than just the system's total weight.** Factors such as size, packaging, and power requirements determine how quickly you can deploy your ROV and complete your mission successfully.

The VideoRay ROV's compact size and light weight allow one person to easily transport the entire system by hand, by helicopter (North Sea compliant), in the trunk of a car, or as checked baggage on a commercial airline. Rugged waterproof cases protect the ROV from the roughest handling. Minimal size and power consumption allow the VideoRay ROV to deploy from unlikely places such as crowded docks, small boats, or the back of an automobile. The ideal place for a VideoRay mission? **Wherever you need to go.**

CUSTOMER CARE

The secret behind the VideoRay ROV's success is not just its cutting edge technology or sleek design. **It is the professionals who use them.** VideoRay is committed to providing our customers with the best technology and comprehensive customer support. What sets us apart from our competitors who make similar promises? **We develop our products with you in mind.** We understand not only how our products work, but how you need them to work. We anticipate your needs and work to address problems before they arise.

VideoRay believes that success largely depends on maintaining close customer relationships. Our philosophy is simple: when you are successful using VideoRay, then VideoRay is successful as a company. **Our focus is on your success.**

Underwater MISSIONS

Because VideoRay has sold over 3,750 ROV systems while maintaining close customer relationships, we have learned an enormous amount about combining the VideoRay ROV components and accessories into simple base systems and specialized accessory packages tailored to specific needs. The VideoRay ROV is designed for professionals demanding easy-to-use, portable, versatile, and cost-effective technology. Whether you are embarking on a search & rescue mission, inspecting infrastructure beyond divers' reach, conducting a compliance inspection on a submerged asset, or searching for treasures on the ocean floor, there is a VideoRay to help you.

OFFSHORE

- Jack-up Rig Inspection
- UWILD Inspection
- Sea Chest Inspection
- Ballast Tank Inspection
- Mooring / Riser Inspection
- Drill Monitoring

MILITARY

- Explosive Ordnance Disposal
- Mine Countermeasures
- Search & Rescue / Recovery
- Port Security Inspections
- Ship Hull Inspections
- Surveillance & Reconnaissance

FIRST RESPONDERS

- Search & Rescue / Recovery
- Drowning Victim Recovery
- Under Ice Search
- Port Security / Harbor Inspections
- Evidence Location / Recovery
- Diver Monitoring

SCIENCE & RESEARCH

- Environmental Monitoring
- Hydrographic Assessments
- Marine Life Observation
- Habitat Observation
- University Research
- Underwater Archaeology

AQUACULTURE

- Net Inspection
- Mooring Inspection
- Feeding Assessment
- Fish Husbandry
- Fish Loss Assessment
- Mort Removal

INFRASTRUCTURE

- Lock & Dam Inspection
- Potable Water Tank Inspection
- Potable Reservoir Inspection
- Bridge Footer Inspection
- Culvert Inspection
- Port Infrastructure Inspection

SALVAGE

- Initial Damage Assessment Report
- Rapid Site Survey Assessment
- Commercial Diver Observation
- Underwater Construction
- Quality Control / Diver Safety
- Confined Area Inspection

ENERGY

- Hydroelectric Dam Inspection
- Wind Turbine Installation
- Hydro Turbine Inspection & Control
- Nuclear Decommissioning Inspection
- Wind Turbine Offshore Inspection
- Nuclear Turbine & Cooling Pumps

Select the Right Product

PRO 4

DEFENDER

General Size & Weight Cases Power Input Power Requirements with Accessories Depth Rating	38.5 kgs (85 lbs) without tether 2 watertight + tether 100-240 VAC 600 watts 800 watts 305m (1,000 ft)	32.5 kg (71.6 lbs) without tether 2 watertight + tether 90-260 VAC 110/220VAC (1 to 2.6kW) 3,000 watts up to 1,000m (3,280 ft)
Control Console Standard Display Video Signal Extended Display Second Display Computer Included Video and Stills Capture Controller Splash Proof ROV Information Display	15 in. Composite Analog and digital video out PLUS and RUGGED Systems Integrated computer Via hand controller Industrial USB Hand Controller IP65 Splash proof option Video Overlay: Date/Time, Depth, Heading, Custom text, logo	15 in. HD digital PC digital out Option Integrated i7 computer Via hand controller Industrial USB Hand Controller IP65 Splash proof option Video Overlay: Date/Time, Depth, Heading, Custom text, logo
Submersible Size Weight	37.5, 29, 22 cm (14.7, 11, 8.7 in) 6.1 kgs (13.5 lbs)	75.16, 39.37, 26.67 cm (29.59, 15.5, 10.5 in) 17.2 kg (38 lbs)
Cameras Standard Camera Tilt Resolution Focus Optional Cameras HD Option	Analog 180° Vertical field-of-view 570 lines Controllable Ext. GoPro, SD, Zoom and HD Option	Digital 180° Vertical field-of-view HD 1920x1080, 1280x720, 640x480 Auto focus SD, Zoom, Low Light and HD Standard
Lighting Type/Output	(2) x LED 3,600 lumens/ea	2 independent arrays (flood/spot) 7,600 lumens/ea
Propulsion Thrusters Horizontal Thrust Speed Propeller Size	2 horiz, 1 vert, lateral (option) 22 lbs 4.2 knots horiz: 90mm vert: 65mm	4 vectored horizontal, 3 vertical 26.7 kg (59 lbs) 5 knots 90mm
Navigation and Sensors Compass Auto Depth Auto Heading Autonomous Tools Leak Detection	3D-tilt compensated ■ ■ option ■	3 axis IMU (AHRS) ■ ■ option ■
Accessory Integration	■	■
Tether	modular plug & play	modular plug & play
Support	All VideoRay ROV systems come with free online and 24/7 phone support	
Warranty	All VideoRay ROV systems have a standard 2 year warranty	

* Specifications are subject to change. Please see VideoRay's website: www.videoray.com for current specifications

Pro 4 CONFIGURATIONS

All Pro 4 configurations are portable, reliable, and come with VideoRay's money-back satisfaction guarantee. The Pro 4 has been engineered based on the countless hours our users have spent with VideoRay equipment over the last nineteen years. Rugged coatings, powerful lighting, optimized cameras, and one-button hand controller recording available on all VideoRay Pro 4 models. VideoRay Cockpit™ software provides an easy to use, intuitive interface for your ROV system.



	ULTRA	STANDARD	PLUS	IP65	RACK
Submersible	Type II Anodization	Type II Anodization	Type II Anodization	CERAKOTE	Type II Anodization
Integrated Control Box					
Weight	9.1 kg (20 lb)	13.6 kg (29.9 lb)	17.9 kg (39.6 lb)	18 kg (40 lb)	7.7kg (17 lb)
Main Display	13 in	15 in	15 in	15 in	15 in
Second Display	-	option	15 in	15 in	15 in
Integrated Recording	■	■	■	■	■
Recording Format	stills (.jpg) video (.wmv, .avi)	stills (.jpg) video (.mkv)			
Video Out	digital or analog	digital or analog	digital or analog	digital	digital or analog
Standard Hand Controller	Logitech USB Wingman	Industrial USB Controller	Industrial USB Controller	USB IP65 Splash Proof	Industrial USB Controller
Sonar Ready	-	option	■	■	■
Splash Proof	-	option	option	IP65_ Splash Proof	-



VideoRay Cockpit Software



Pro 4 Ultra Integrated Control Box



Pro 4 Standard Base Integrated Control Box



Pro 4 Plus Base Integrated Control Box



Pro 4 IP65 Splash Proof Integrated Control Box



Pro 4 Rack Base Control Unit

Pro 4 OPTIONS

The VideoRay Pro 4 supports more accessories and tools than any other ROV. All VideoRay ROV systems and accessories are modular **plug and play** - meaning capabilities can be added or subtracted in the field with a simple hardware add-on or a quick software update. Integration of new accessories is easy. **Call us for a complete list of Pro 4 accessories.**

ACCESSORIES

Autonomous Control & GPS

Auxiliary Camera Systems

Cathodic Protection

GoPro Mounts and Feeds

Hull Crawler

Lasers

Manipulators (Rotating & Standard)

Multibeam Imaging Sonar

Positioning and Navigation Systems

Radiation Sensors

Retrieval Kits

Samplers

Ultrasonic Thickness Gauge

Video Enhancement

Water Quality Sensors

Call for More Options

***bolded items pictured*



TETHER

PERFORMANCE

Diameter: 8.6 mm (.34 in)

Buoyancy: Neutral

Lengths Available: 40 m (130 ft), Custom

Breaking Strength: 635 kg (1,400 lb)

NEUTRAL

Diameter: 11.4 mm (.45 in)

Buoyancy: Neutral

Lengths Available: 75 m (250 ft), 152 m (500 ft), Custom

Breaking Strength: 454 kg (1,000 lb)

NEGATIVE

Diameter: 7.62 mm (.3 in)

Buoyancy: Negative

Lengths Available: 75 m (250 ft), 152 m (500ft), 305 m (1,000 ft)

Breaking Strength: 454 kg (1,000 lb)

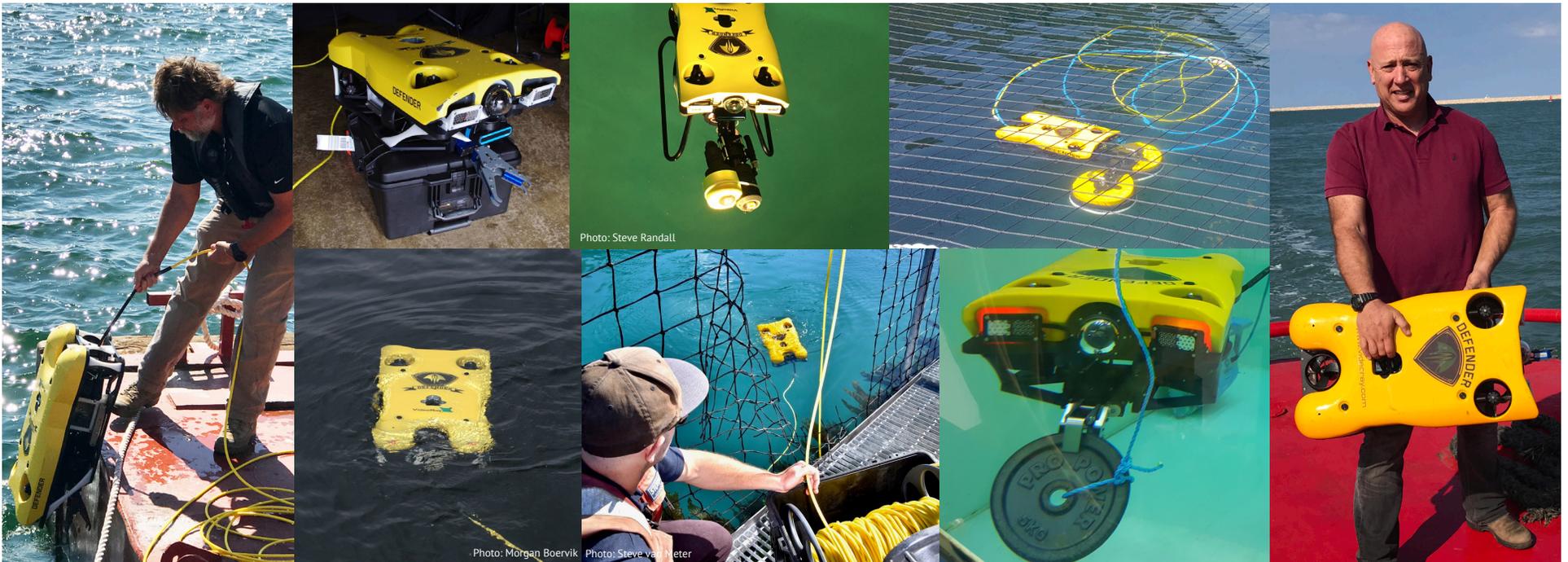
Tether Deployment System (TDS)

Tether management cases are designed to store, manually payout, and retrieve your tether while keeping it protected and clean. Both our Standard and Extended TDS cases have a retractable handle and wheels for easy transportation and consist of rugged Pelican 1620 hard cases with custom slip rings, manual winch handles, and 4.5 m (15 ft) leads of tether to the Control Panel.

Mission Specialist Series TECHNOLOGY

Since Remotely Operated Vehicle were first deployed in the 1980s, the companies that produced these underwater tools developed systems by starting with a standard frame, camera, and thruster setup, then adding a payload of optional sensors and tools. The VideoRay Mission Specialist Series (MSS) vehicles are designed and built in a fundamentally different manner. Their design begins with the thrusters, cameras, other sensors, and tools that are needed for a typical mission. These are organized in the most efficient manner, keeping current, water visibility, portability, penetration size restrictions, tether length, imaging requirements (both visual and sonar) and other sensor and tooling requirements in mind.

There are significant advantages to the modularity of every Mission Specialist system, particularly ease of maintenance and repair. Since different configurations use several common modules, these can be stocked easily at your site or a nearby service center. Should your requirements change in the future, the purchase of a new frame will allow you to build a smaller or larger configuration without buying a new ROV. And, as new modules are developed by vendors throughout the industry, you can update your system easily and rapidly. When you purchase a VideoRay Professional ROV system, you have the choice of the best sonars, positioning systems, metal thickness gauges, cathodic protection, water quality and radiation measuring devices, and many other underwater tools and sensors.



Mission Specialist MODULARITY

The modularity of VideoRay's Mission Specialist technology allows for easy maintenance, fast repairs, simple upgrades, and seamless integration across configurations. Each configuration consists of several modules developed by either VideoRay or a variety of underwater tool and sensor companies, including: cameras with a range of resolutions, LED lighting, efficient yet powerful thrusters, power systems ranging from 75 Volts to 1600 Volts, communications modules using either fiber or copper, manipulators, positioning and sensors for radiation, water quality, and metal thickness, imaging and multibeam sonars. Since integration with third party modules is a primary goal, the wide range of power, communication, and mounting options accommodate almost every compact tool or sensor.

SYSTEM

The "business end" of the MSS ROV system is a variety of simple, modular components that will be configured into the vehicle for your missions. Cameras, lighting, purpose designed frames, hydrodynamic flotations, and tailored propulsion layouts are all important factors to consider in the vehicle's design.

DEPTH RATING

The VideoRay MSS ROV systems are depth rated to 1 kilometer (3,281 feet).

CAMERAS

Pick a camera to suit your needs - we have HD, SD, low light, dynamic range - the right camera for your mission.

LIGHTING

Super bright LED lighting modules can go anywhere. Toggle between spot and flood for best illumination.

FRAME

Purpose built framework customized to carry your valuable sensor packages.

PROPULSION

Configure our industry leading thrusters into the perfect arrangement for power and precision vehicle control.

TOP-SIDE CONTROL

A hallmark of all VideoRay systems is a powerful and compact surface control console. It provides all power, display, computer, and control equipment in a compact form factor.

TOOLS & SENSORS

The VideoRay MSS ROV System can seamlessly integrate a variety of tooling and sensor packages.

MODULES

State of the art navigation modules relay vehicle attitude and information. AHRS (Attitude, Heading and Reference Systems) - 3-axis Inertial Measurement Unit (IMU) combined with a 3-axis magnetic sensor 3D compass, depth, and more.

SENSORS

Integrate a wide variety of data gathering sensors such as sonar, DVLs, and water parameter sensors.

TOOLING

Get the job done with a variety of intervention tools such as manipulators and NDT (Non-destructive testing) tools.

POSITIONING

Know precisely where your vehicle is at all times, mark targets, and get GPS positions with our navigation and positioning systems.

AUTONOMY

Simplifies and enhances the VideoRay user experience by providing automatic navigation to underwater locations all while following a pre-defined mission regardless of changing currents and rough sea conditions.

Mission Specialist DEFENDER

The Defender configuration is designed for greater control of the vehicle position, heavier payloads, and demanding intervention, such as rendering unexploded ordinance safe or cleaning nets for offshore fish farms. With four vectored thrusters and seven thrusters total, the Defender is able to maintain control of a large number of thrusters, proving this configuration useful for the most demanding applications. The addition of third party control and navigation software from Greensea Systems or Seebyte makes the Defender a popular configuration for dangerous or heavy-duty missions.

SPECS

Submersible	75.16, 39.37, 26.67 cm (29.59, 15.5, 10.5 in)
Thruster Configuration	4 vectored horizontal trusters, 3 vertical thrusters
Thrust	Forward - 26.7kg (59lb); Reverse - 15kg (33lb); Lateral - 8.6kg (19lb); Up - 23.1kg (50.9lb); Down - 12.9kg (28.4lb)
Depth Rating	400m (1,312ft); 2km (6,561ft) <i>optional</i>
Control Box	
Weight (sub and panel)	32.5 kg (71.6 lbs)
Main Display	Daylight Viewable Monitor
Integrated Recording	Yes
Communications	Ethernet/ RS-485
Sonar Ready	Yes

PAYLOADS

Sonar - Multibeam
 BlueView M Series
 BluePrint 750d
 BluePrint 1200d
 Tritech Gemini ik
 Tritech Gemini is
 Tritech Gemini ix

Navigation
 USBL
 DVL
 Autonomous Control

Cavitation Cleaner
 Lance
 Dome

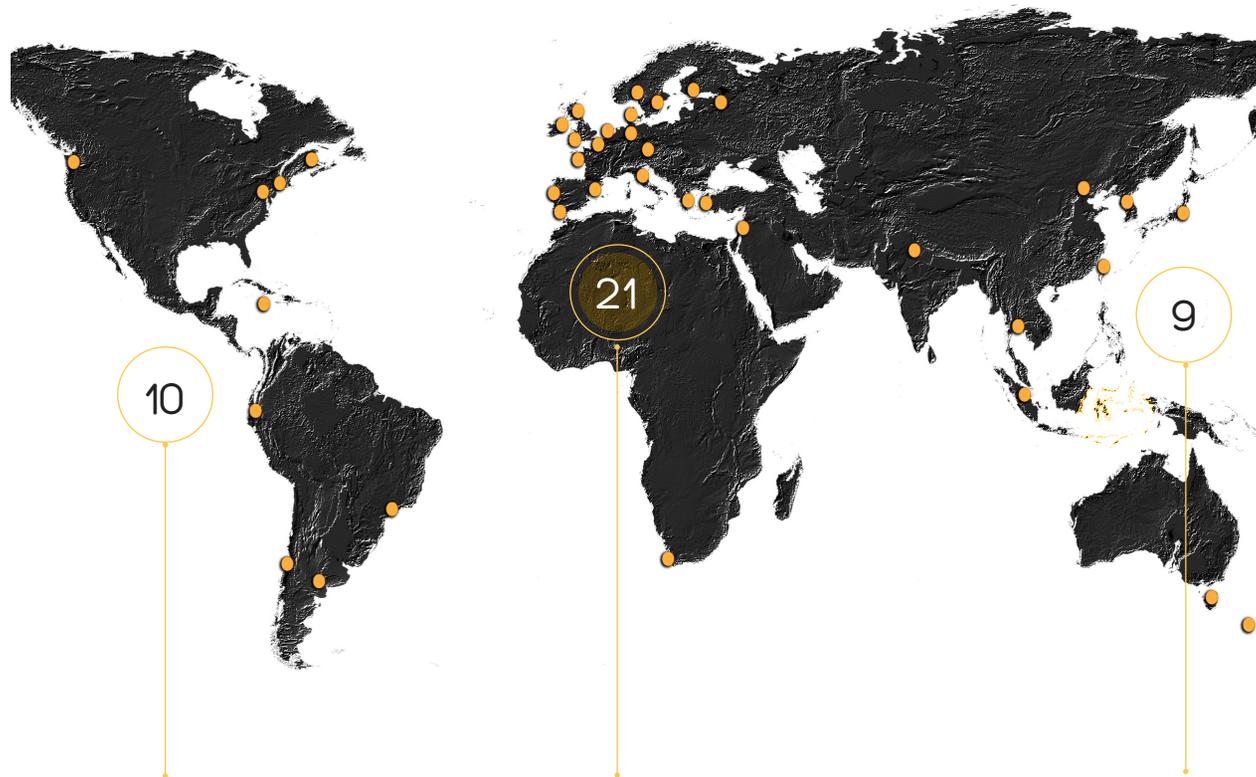
Sonar - Scanning
 Tritech MicronNav

Rotating Manipulator - 5 Heads
 Parallel Jaw
 V-Jaw
 Sampler Jaw
 Trident Jaw
 Cutter Jaw





Global Network



Americas

VideoRay Headquarters located in Pottstown, PA.

Full Authorized Service Centers at VideoRay's Worldwide Headquarters in Pennsylvania, Houston, and Chile.



Europe, ME, Africa

More than 20 Dealers throughout Europe, South Africa, and the Middle East.

Full Authorized Service Centers in the UK, Norway, Denmark, France, and the Netherlands.



Pacific Rim

Dealers located in Singapore, Japan, Malaysia, India, and New Zealand.

Full Authorized Service Centers in Australia, Russia, Singapore, and Japan.

VideoRay Professionals

VideoRay has established a sprawling global network of Dealers and Partners fully capable of providing the highest quality sales, support, and service. These companies represent the best in class offering of the finest products in underwater technology around the globe with unparalleled knowledge and professionalism.

Each VideoRay Dealer:

- Owns the latest VideoRay ROV demonstration equipment
- Performs on-site demonstrations
- Answer any questions about parts, options, and accessories
- Is able to either perform ROV repairs or direct you to the nearest Authorized Service Center
- Maintains the highest level of professionalism

Authorized Service Centers

VideoRay has strategically placed fully Authorized Service Centers (ASCs) throughout the world to accommodate our global clientele. ASCs have been trained to quickly diagnose and repair any issues with your VideoRay ROV. They keep an inventory of parts and spares for quick turnaround in an effort to minimize downtime.

Search and Rescue teams and First Responders worldwide employ VideoRay ROVs in dangerous and dire situations to locate targets of interest, especially drowning victims. To date, rescue personnel have located and/or recovered numerous drowning victims with the assistance of a VideoRay ROV.





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