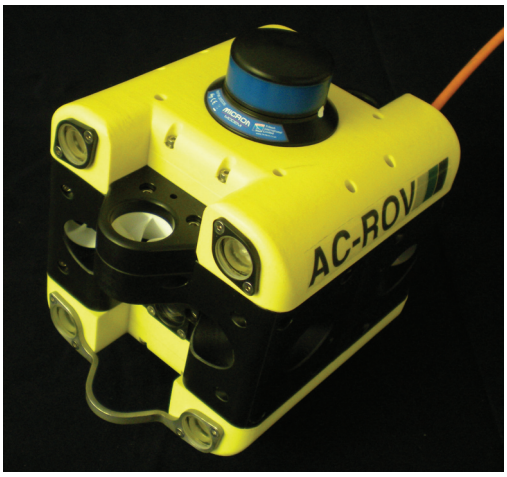
AC-CESS
Remotely Operated Vision and Sense

Tel: +44 (0)1224 790100 · Fax: +44 (0)1224 790111 · www.ac-cess.com

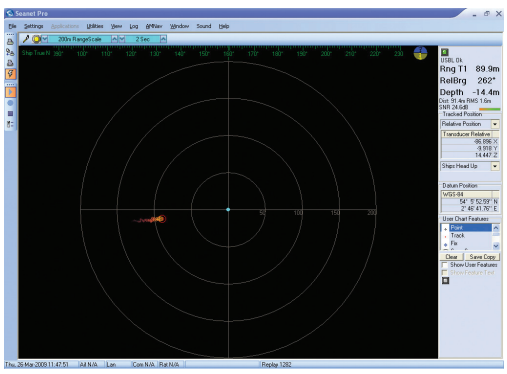
AC-ROV Positioning and Tracking



The market leading **AC-ROV** Underwater Inspection System is now available with an Ultra Short Base Line (USBL) positioning and tracking system.

During ROV operations, there are many situations where you need to know the location of the vehicle with reference to you as the operator, or its global position. Underwater positioning and tracking is fundamental to **high level survey and search applications**, allowing you to log where you need to go, where you have been and to enable target returns by you or others.

Inline with the **AC-ROV** ethos of mobility, portability and robustness the solution is an integrated arrangement of the Tritech MicronNav USBL system. The outcome retains the clean, robust and snag free shape of the **AC-ROV**, whilst the topside hardware and interface is 100% Tritech standard.



The MicronNav system could not be easier to deploy, with **no modifications required** to the **AC-ROV*** system and no specialist training for integrating the transponder block to the vehicle. The MicronNav system can be configured to input survey, vessel orientation and GPS strings giving survey level positioning data with a real world location.

- **Positions and Tracks to Maximum AC-ROV Depth & Excursion**
- **Real Time Global Positioning**
- **AC-ROV mobility, portability and robustness**
- **Simple 'no modification' retrofit***

The MicronNav USBL system calculates **vehicle position** by combining acoustic range and bearing data from the vehicle transponder with attitude and heading data from the surface transceiver. The USBL system comprises a subsea MicronNav unit **fully integrated** into an **AC-ROV** top buoyancy block, a surface USBL dunking transceiver unit with integral magnetic compass and pitch/roll sensors, a surface MicronNav100 Interface module and operating software all under control of the customer host PC/Laptop. The system does not require any additional surface transceivers (SBL) or seabed transponders (LBL).

MicronNav uses the very latest **Spread Spectrum** acoustic technology. This provides robust through water communications between the surface transceiver and the vehicle transponder. The transceiver is designed to provide 180 degree hemispherical coverage, allowing accurate **vehicle tracking in very shallow water**. The design of the ROV transponder provides omni-directional coverage.

- **Spread Spectrum Acoustics for Robust & Reliable Communication in challenging environments**
- **Hemispherical Acoustic Coverage for Shallow Water Operations**
- **Integrated motion sensor in dunking transceiver**

AC-CESS
Remotely Operated Vision and Sense

Tel: +44 (0)1224 790100 · Fax: +44 (0)1224 790111 · www.ac-cess.com

SPECIFICATION

CONFIGURED AC-ROV:

Positioning Technology	Spread Spectrum Acoustic Ultra Short Baseline (USBL) Range/Bearing Tracking System. 20-28 kHz band. (Magnetic Compass and Pitch/Roll Sensor built into transducer as standard)
Tracking Range	500m (1,640 ft)
Range Accuracy	+/- 0.2 meters typical (7.87 inches)
Bearing Accuracy	+/-3 degrees
Position Update Rate	0.5 Seconds – 10 Seconds
Targets Tracked	Standard 1 (Option 4)
Data Display	Polar and Cartesian display with optional user bitmap chart
Data Recording	All Data recorded in SeaNet Format for Replay or Analysis
Surface Navigation	GPS and Heading/Attitude Sensors supported. Position of surface vehicle displayable.
Surface Station Power	110-220V AC or 9-30V DC

USBL TRANSCEIVER:

Operating Beamwidth	180 degrees
Maximum Diameter	110mm (4.33 inches) including mounting plate
Body Tube Diameter	75mm (2.95 inches)
Maximum Height	270mm (10.63 inches)
Weight in Air	1.96kg (3lbs 15oz)
Weight in Water	810g (1lb 12oz)
Transmitter Source Level	169dB re 1uPa @ 1M

CONFIGURED AC-ROV (MicronNav unit fitted on vehicle):

Length	205mm
Width	151mm
Height	183mm
Vehicle Fly Through	208mm
Beamwidth	Omni directional Transducer

DEPLOYMENT and OPERATION:

The system can be operated from a fixed or mobile platform and is quick and simple to set up and deploy.

Install the SeaNet software onto a PC or laptop, connect the MicronNav control box to the laptop and the dunking transceiver to the control box. Attach the transceiver to the deployment pole and rigidly fix the pole to the side of the platform with the transceiver fully submerged.

With the AC-ROV deployed simply activate the MicronNav system to start receiving vehicle range and bearing information.

NOTE; The Dunking Transceiver should be mounted 1 to 2 meters below the surface of the water and 1 to 2 meters away from the dock wall or vessel hull. If this is not possible in the vessel application, then lower the head further to ensure a clearance of 1 to 2 meters below the hull.

* Dependant on date of manufacture