

## MicronNav

### Features

- Quick and easy to mobilise
- Integrated motion sensor in dunking transducer
- Seamless integration into Tritech's Seanet Pro software control system
- Connects via the "aux port" of Tritech's sonar systems - no need for extra umbilical communications channels

### Applications

- Mini/Micro ROV navigation system
- Diver tracking system (optional transponder mode)
- AUV tracking system (optional transponder mode)
- ROV location beacon (optional transponder mode)



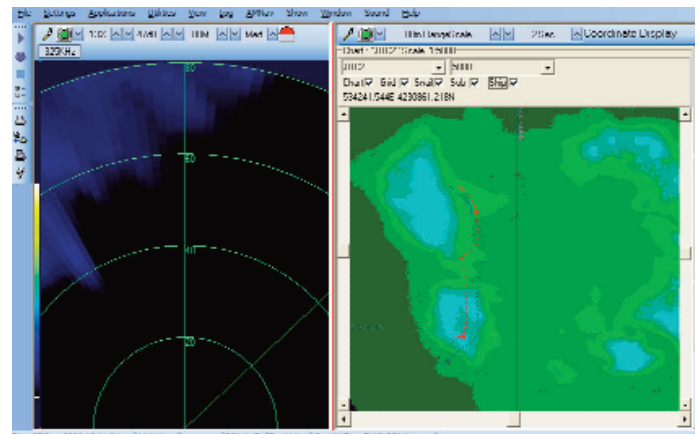
Picture of MicronNav100 Interface Unit, USBL Dunking Transducer and MicronNav subsea unit.

The MicronNav system is an innovative USBL positioning system designed for small vehicles. It has been primarily designed to be used in conjunction with the Tritech Micron/SeaSprite sonar and other Tritech Micro products. This concept will also be adapted and integrated into the Tritech SeaKing range of products in the future.

The system comprises a subsea MicronNav unit, a surface USBL transducer unit with integral Magnetic Compass and Pitch/Roll sensors, a surface MicronNav100 Interface module and operating software under control of the customer host PC/Laptop.

MicronNav uses the very latest in Spread Spectrum acoustic technology. This provides a robust method for communications between the dunking transducers and the vehicle responder/transponder.

It can be used as a stand-alone system, powered by and communicating with the MicronNav



Sonar and navigation display, bitmap chart display with ship(blue) and ROV(red) "snail trails"

through a spare RS232 port on the ROV (at 9600 baud) or RS485 through a spare screened twisted pair in the umbilical. Alternatively it can be integrated with the Tritech Micron/SeaSprite Sonar communicating via the sonar RS232 aux port.

The USBL transducer is designed to provide 180 degree hemispherical coverage below the transducer, allowing vehicle tracking in very shallow water. The design of the ROV MicronNav transducer provides omni-directional coverage.



## Specifications

### System:

Positioning Technology	Ultra Short Baseline (USBL)
Frequency Band	20-28KHz
Tracking Range	500m (1,640ft) typical Horizontal, 150m (492ft) typical Vertical
Range Accuracy	+/- 0.2 meters typical (7.87 inches)
Bearing Accuracy	+/-3 degrees
Position Update Rate	0.5 Seconds – 10 Seconds
Targets Tracked	1 responder and up to 15 transponders
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	SeaNet GPS and Heading/Attitude Sensors supported. Position of Surface vehicle displayable.
Surface Station Power	110-220V AC or 9-30V DC

### USBL Transducer:

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)

### MicronNav Unit (fitted on vehicle):

Beamwidth	Omni directional Transducer
Power Requirement	12-50V DC
Power Consumption	3.5W Transmitting 280mW Standby
Transmitter Source Level	169dB re 1uPa @ 1M
Interface	RS232 or RS485
Depth Rating	750m (2,460ft)
Maximum Diameter	56mm (2.20 inches)
Maximum Height	76mm (2.99 inches)
Weight in Air	225g (7.9oz)
Weight in Water	70g (2.5oz)

All specifications are subject to change in line with Tritech's policy of continual product development.

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