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Benthos

BENTHOS trackit USBL System

Ultra Short Baseline Positioning and Communication System for Shallow Water Vehicle Tracking



- ACCURATE
- COST EFFECTIVE
- FLEXIBLE
- COMPACT









TELEDYNE
BENTHOS
Everywhereyoulook™

Benthos NEW Trackit USBL System fo

Advanced positioning and wireless communications -- from a single compact system!

Leveraging Teledyne Benthos extensive technical expertise and experience in acoustic positioning and communications, the new **Track*it*** Ultra Short Baseline (USBL) system brings it all together with a powerful topside processing package, intuitive user interface, and highly accurate, field proven subsea electronics.

Positioning

Utilizing advanced broadband signaling, Benthos **Track*it*** USBL System acoustically measures the range and bearing of one or more subsea vehicles, or targets, relative to the transducer installed on a surface vessel.

The system is comprised of a ruggedized, portable topside deck unit, dunking transducer, and one or more subsea transponders. Collected data is fed into a topside laptop or PC computer installed with Teledyne Benthos' software and graphical user interface, which is designed to step any level user through their mission in a highly visual and intuitive manner.

Multiple targets can be tracked at up to 1500m slant range in up to 1000 meters of water.

The system requires no external power. This combined with its compact size and weight allows it to be quickly and easily deployed from any vessel of opportunity, including RHIBs.

Wireless Communications

In addition to its USBL capabilities, Benthos **Track*it*** can also be used simultaneously or independently as an acoustic modem – essentially providing you with two systems for the price of one.

In addition to range and bearing information, **Track*it*** can also wirelessly transmit critical command and control information to the vehicle and/or receive vehicle or sensor data for mission QA /QC feedback.

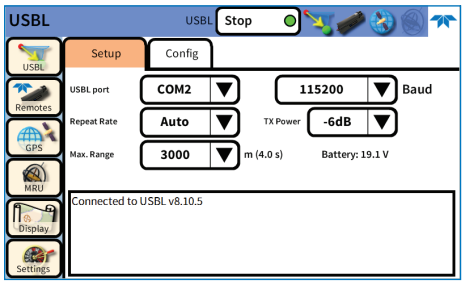


PRODUCT FEATURES

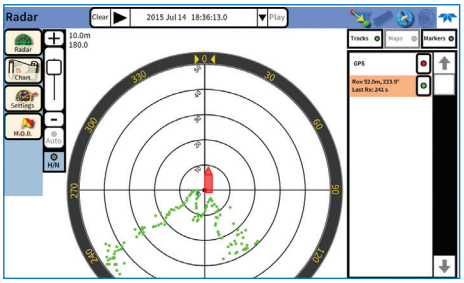
- Ideally suited for tracking shallow water vehicles
- High accuracy / low cost of ownership
- Up to 1,500m range
- Accuracy of up to 0.5% slant range
- 1000m depth rating
- 22- 27 kHz omnidirecional transducers
- Multi-beacon tracking allows for ranging on up to 250 subsea targets
- USBL transponder includes external power and serial interface connection for wireless data transmission
- Easily deployed from any vessel of opportunity, including RHIBs.
- Operates simultaneously, or independently, as a USBL and/or acoustic modem
- Highly intuitive graphical user interface for all levels of users
- Rugged and reliable to withstand the harshest environments

r Shallow Water Vehicle Applications

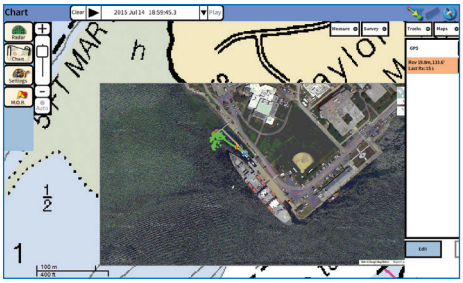
Graphical User Interface



User-friendly control screen to quickly step users through the system set up.



Display screen shows radar view.



With GPS input, utilizing the range and bearing data, the topside software can calculate and plot the geo position on a chart.

Deck Box

The **Track*it*** Deck Box provides power to the USBL Transducer and interfaces the transducer to your PC over an RS-232 serial interface or a Bluetooth data link, switchable between the two. The unit includes a rechargeable lithium battery, removing the need for external power.

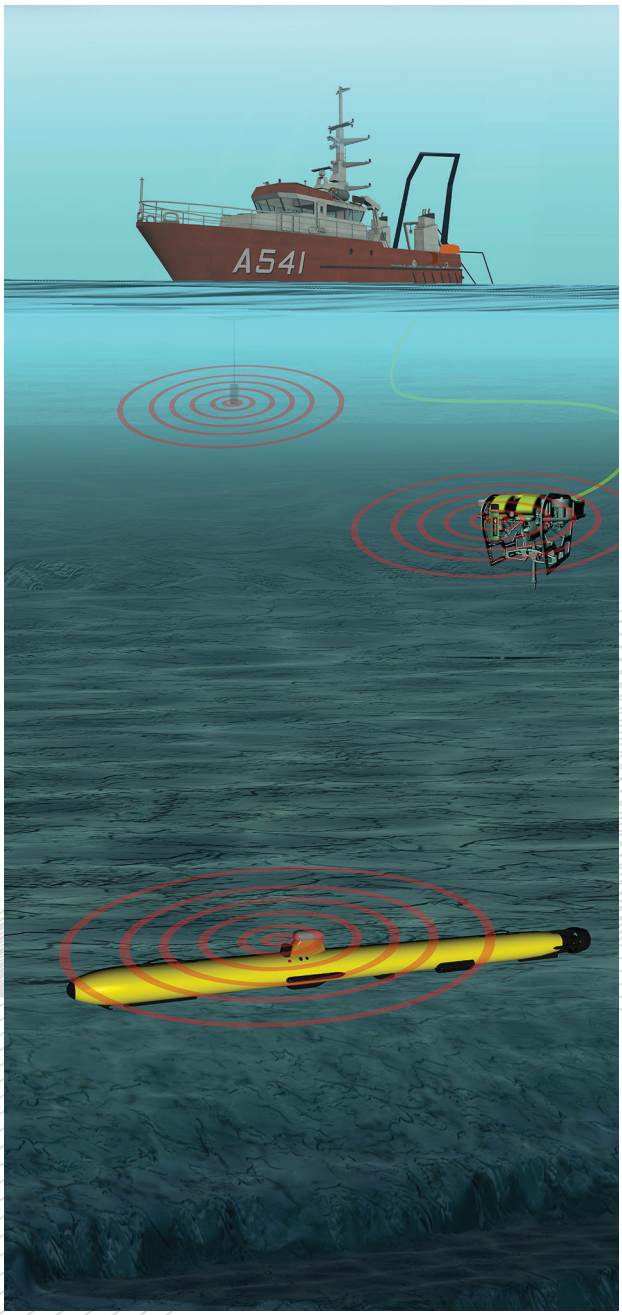
Transducer

The USBL Transducer is powered by the deck box and contained in a PVC housing. The transducer can be deployed over the side or fastened to a user-supplied deployment pole using the aluminum mounting sleeve provided with the system.

The transducer transmits its broadband interrogation signals which are received by one or more USBL Transponders. Replies from the transponders are received by the USBL transducer sequentially and the system calculates the range and bearing to each transponder and displays the location on the display.

Transponder

The USBL Transponder is rated to 1000 meters and functions with the USBL Transducer to provide range and bearing to an AUV or ROV. The transponder is mounted on the vehicle and is completely self-contained in a highly visible, aluminum housing and can be externally or internally powered. Up to 250 transponders can be used sequentially to acquire position data from multiple underwater vehicles.



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Benthos trackit System Configuration



BENTHOS trackit USBL SYSTEM SPECIFICATIONS

Max. Depth Rating	
Topside Transducer:	500m
Subsea Transponder:	1000m
Range	1500m Max (1500 common in static conditions, greater or lesser distances possible, dependent on ambient environment)
Frequency	22-27kHz
Positioning Accuracy	+/- 0.5% Slant Range*
Bearing Accuracy	0.6 degree, RMS
Range Accuracy	+/- 0.3m

*Performance may vary based on environmental conditions

Topside Transducer	Omnidirectional (360° visibility in horizontal)
Subsea Transponder	Omnidirectional (360° visibility in horizontal)
Deck Box Interface	RS-232 and Bluetooth
Power Input	
Topside Unit:	Universal input, 110-240V, 50/60Hz
Subsea Interface:	RS-232
Working Temperature	-5° to +40°C
Storage Temperature	-20° to +70°C

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