

Subsonus USBL Released



Advanced Navigation has released the Subsonus USBL underwater acoustic positioning system. This is a next-generation USBL underwater acoustic positioning system that, according to the manufacturer, provides high-accuracy position, velocity and heading at depths of up to 1,000 metres. The system features a hydrophone array combined with an internal tightly coupled INS, all packed into a miniature titanium enclosure small enough to fit in the palm of the hand.

Subsonus is currently undergoing final in-field testing and will start shipping to customers in Q2 2015.

Subsonus features an eight channel calibrated hydrophone array, offering angular and ranging accuracy. Subsonus's hydrophones are a new highly directional in-house design that offer receive sensitivity combined with noise and multipath rejection. Despite each elements directionality, the complete array of eight provides a full acoustic field of view for tracking targets from any direction.

Subsonus has the ability to measure the speed of sound through water using a new technique. This means that the system is self calibrating and no extra equipment or user intervention is required to setup the system, reducing the risk of operator errors.

The device dynamically adjusts its acoustic transmit power based upon ranging distance. This results in highly improved short range performance by reducing noise and multipath. Subsonus features an operating range and depth of up to 1,000 metres.

Subsonus features an integrated tightly coupled inertial navigation system (INS). This allows it to offer high accuracy factory calibrated orientation alignment as well as continuous output of position and velocity. Subsonus measures position acoustically as well as doppler velocity.

Subsonus works on an inverted USBL scheme which allows it to provide accurate acoustic heading to the subsea vehicle. Additionally because reference position and heading is transmitted acoustically, the Subsonus unit on the subsea vehicle can output absolute position, velocity and heading without the use of a tether for data transfer. Subsonus can also operate in a standard USBL scheme where it is compatible with most major beacons.

Subsonus does away with the typical reliance on external equipment such as rack mount units, interface boxes or PCs. All processing is done internally inside the miniature titanium enclosure and the system connects through a single ethernet connection for data output. It features an entirely web browser-based user interface.

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