Subsonus is a miniature underwater acoustic positioning system that provides high accuracy position, velocity and heading at ranges of up to 1000 metres.

The USBL provides highly reliable tracking, even in high multipath, challenging acoustic environments, thanks to its advanced signal processing and unique hydrophone design.

Subsonus also seamlessly operates as a modem capable of transmitting user data underwater.

**PERFORMANCE**

- 0.1 m Positioning Accuracy
- 0.1 ° Roll and Pitch
- 0.3 ° Acoustic Heading
- 1000 m Range and Depth

**KEY FEATURES**

- Integrated INS
- Multipath Rejection
- Acoustic Modem
- Very low Size, Weight and Power
- Speed of Sound Sensor

**APPLICATIONS**

- AUV & ROV NAVIGATION
- DIVER TRACKING
- SUBSEA SURVEYING
FEATURES

**Dynamic Power and Signal Encoding**
Subsonus dynamically adjusts its acoustic transmit power and signal encoding based upon its operating environment. This results in highly improved performance and reliability in difficult conditions.

**Industry Leading Hydrophone Array**
Subsonus features an industry leading eight channel factory calibrated hydrophone array. With the innovative hydrophone array Subsonus is able to perform beam forming, offering exceptional multipath rejection in poor environments and higher accuracy measurements.

**Internal Speed of Sound**
Subsonus has the ability to measure the speed of sound through water using a revolutionary new technique. This means that the system is self tuning and no extra equipment or user intervention is required to setup the system for optimal performance.

**Acoustic Heading**
Subsonus features acoustic heading transfer technology that allows it to transfer high accuracy GNSS heading from the surface to a unit underwater. This allows underwater units to achieve high accuracy heading without a gyrocompass and with no susceptibility to magnetic interference.

**Fully Integrated Miniature Enclosure**
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 a web browser based user interface.
**SPECIFICATIONS**

**NAVIGATION**
- Position Accuracy (5 m range) _______________ 0.1 m
- Position Accuracy (100 m range) _______________ 0.5 m
- Position Accuracy (1000 m range) _______________ 5.0 m
- Velocity Accuracy _______________ 0.01 m/s
- Roll and Pitch Accuracy _______________ 0.1 °
- Heading Accuracy _______________ 0.3 °
- Heave Accuracy (whichever is greater) _______________ 5 % or 0.05 m
- Internal Filter Rate _______________ 1000 Hz
- Output Data Rate _______________ Up to 1000Hz
- Latency _______________ 0.6 ms

**SENSORS**
- Integrated GNSS/INS _______________ Yes
- Integrated GNSS Antenna _______________ In top of hydrophone array
- Pressure Sensor Range _______________ 1000 m
- Pressure Sensor Accuracy _______________ 1.5 m

**ACOUSTICS**
- Hydrophones _______________ 8
- Frequency _______________ 30 kHz (broadband)
- Range _______________ 1000 m
- Acoustic Coverage _______________ 300 ° hemispherical
- Accuracy _______________ 0.25 % of slant range
- Update Rate _______________ Up to 10 Hz
- Data Transfer Rate _______________ Up to 10 kbit

**HARDWARE**
- Operating Voltage _______________ 9 to 60 V or Power over Ethernet
- Power Consumption (Average) _______________ 10 W
- Power Consumption (Peak) _______________ 25 W
- Interface _______________ Ethernet (RS232 / RS422 through ILU)
- Timing Synchronisation _______________ PTP and NTP support
- Depth Rating _______________ 1000 m
- Operating Temperature _______________ -20 °C to 40 °C
- Storage Temperature _______________ -40 °C to 85 °C
- Shock Limit _______________ 25 g
- Dimensions _______________ 106 x 106 x 93 mm
- Weight in Air _______________ 1170 g
- Weight in Water _______________ 650 g