ADVANCED NAVIGATION

SUBSONUS
USBL/INS

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

ITAR FREE

APPLICATIONS

AUV & ROV NAVIGATION

DIVER TRACKING

SUBSEA SURVEYING

FEATURES

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.

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.

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 acheive high accuracy heading without a gyrocompass and with no susceptibility to magnetic interference.

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.

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

ACOUSTICS

Hydrophones	8
Frequency	30 kHz (broadband)
Range	1000 m
Acoustic Coverage	300 ° hemispherical
Range Accuracy	0.1 % of slant range
Angular Accuracy	0.1 °
Update Rate	Up to 10 Hz
Data Transfer Rate	Up to 10 kbit

SENSORS

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

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

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