

SUBNERO LONG RANGE MODEMS

Software-defined acoustic modems for long range communications



KEY FEATURES

- Up to 20 km communication range in shallow waters
- Up to 100 bps data rate
- Supports localization & ranging with 1 m precision
- Support for arbitrary waveform transmission and recordings
- Enhanced performance with additional receiving channels



EXTENDED COMMUNICATION RANGE

Subnero's L5L series long-range modems provide the capability to communicate underwater over 20 km in some of the most challenging environments with data rates up to 100 bps, in a compact form factor*. In addition, they also provide ranging and localization support.

APPLICATION DIVERSITY

Designed to take monitoring and command & control applications to the next level, the L5L series modems are ideal for applications such as passive acoustic monitoring, water quality monitoring, long range AUV command and control, seismic monitoring.

SEAMLESS INTEGRATION THROUGH UNETSTACK

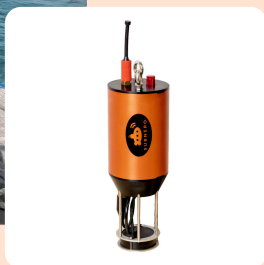
Engineered with software designed approach from its core, L5L series modems supports seamless integration with Subnero's M25M series modems using a standard set of UnetStack commands and APIs, providing flexibility and extensibility to build true heterogenous networks.

* for this frequency band

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SILVER EDITION

WNC-L5LSS4, WNC-L5LSE4

Subnero's L5L series long-range modems are available in both standalone as well as embedded configurations providing the flexibility to choose depending on the operational requirements. In addition to the longer communication range, users can transmit and record raw signals in real-time, through UnetStack APIs.

TECHNICAL SPECIFICATIONS

FEATURE	DETAILS
Operating range	up to 20 km (nominal, depending on channel conditions)
Data rate	up to 100 bps (depending on channel conditions)
Ranging precision	1 m
Doppler resilience	± 4 knots or better
Modulation*	FH-BFSK
FEC* (error correction)	BCH, LDPC, Convolution code
Software framework	UnetStack3 (unetstack.net)
Hardware interface	Ethernet (10/100 Mbps)
Beam pattern	Omnidirectional
Carrier frequency	5 kHz
Bandwidth	1 kHz (4.5 kHz - 5.5 kHz)
Source level	185 dB re 1 μ Pa (rms) @ 1 m (nominal)
Power consumption	< 4W (receive mode, max.) @ 24 VDC < 100 W (transmit mode, max.)
Operating depth	300m (aluminium)

* Software defined, user customizable

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