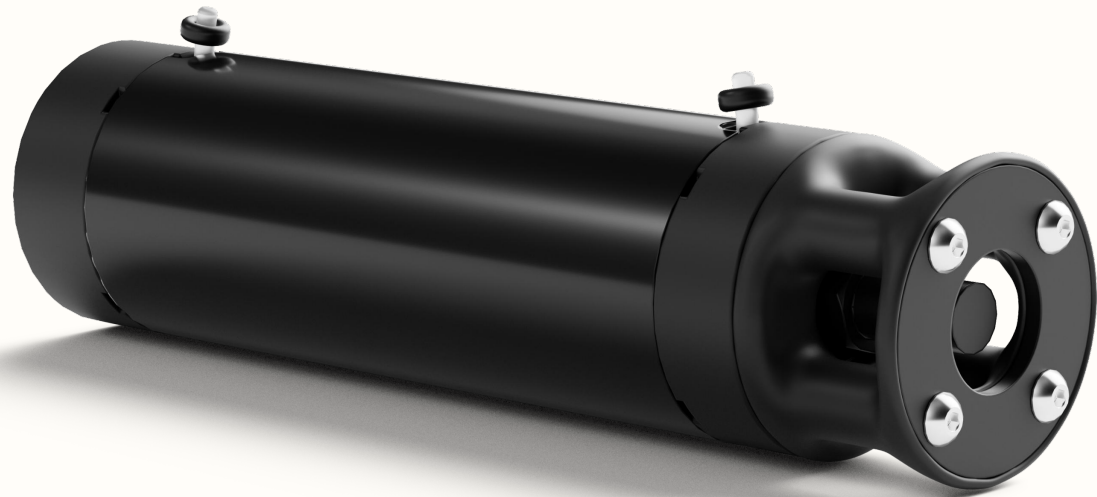


Hydrophone



Add a long-dwell, AI-enabled hydrophone to your Spotter Platform to monitor and classify underwater sound in real time, continuously and indefinitely.

Process data at the edge using built-in AI models or deploy your own algorithms for custom detection needs.

FEATURED IN

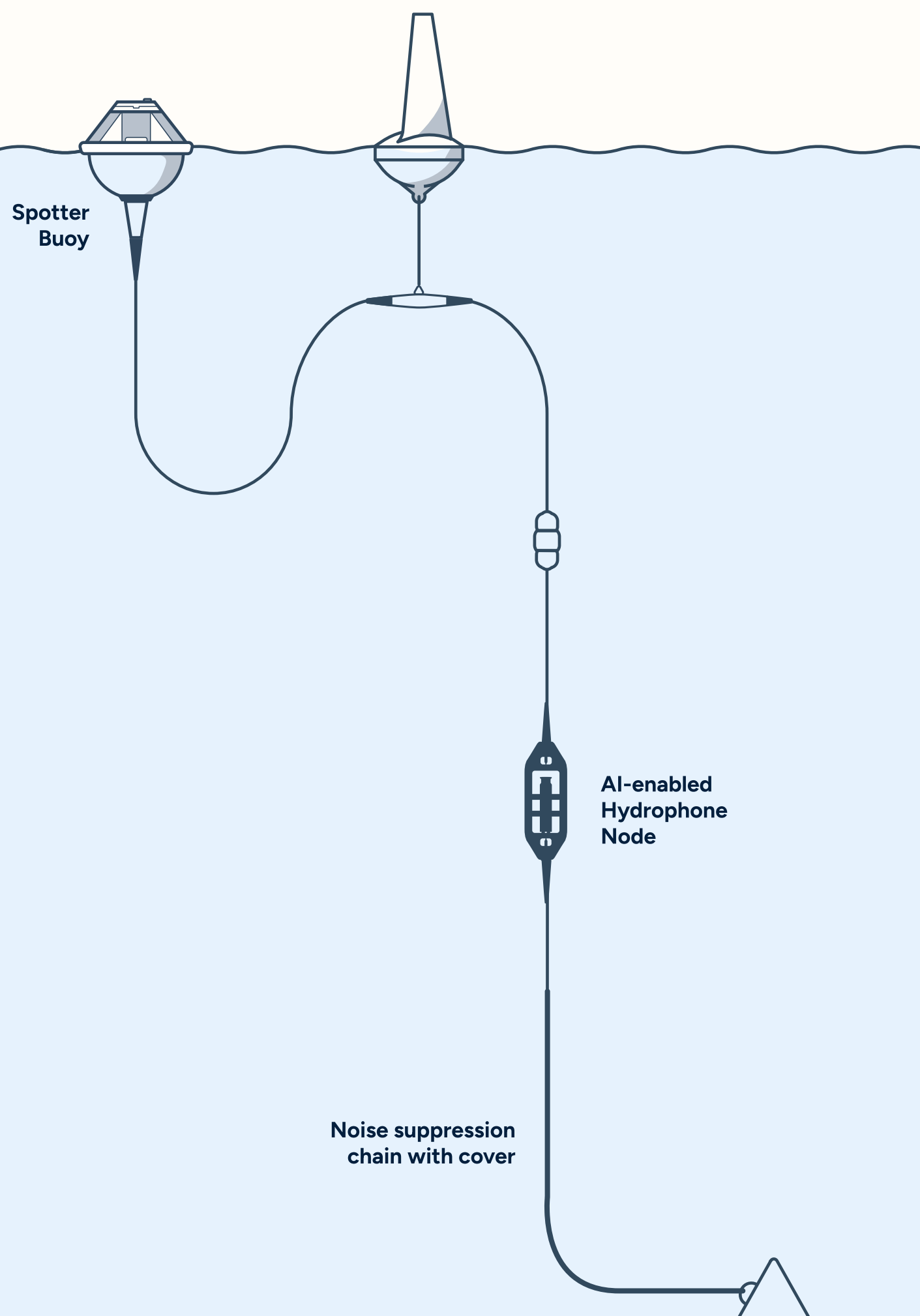
Spotter Sound

A turnkey solution for real-time underwater acoustic monitoring and AI-powered detection.

HIGH IMPACT USE CASES

- Unauthorized Vessel Detection
- Marine Mammal Monitoring
- Construction Noise Compliance

[Learn More →](#)



Core Specifications

Sensor	Applied Ocean Sciences BOREALIS
Sensor Type	Piezoelectric
Frequency Range	26 Hz - 25 kHz
Sensitivity	-202.5 dB re 1V ² /μPa ²
Self-Noise	<31 dB re 1 μPa ² /Hz
Power Consumption	150 mW (while recording)
Sleep Power	<5 mW in standby mode
Sampling Rates	31.25k, 62.5k sps (configurable)
Directional Response	Omnidirectional
Pre-amp Gain	35 dB before ADC
Bit Depth	24-bit ADC (dithered to 16-bit logged)
Maximum Depth	50 m
Power Supply	Spotter's Li-ion battery (solar-rechargeable)
Operating Temperature	-5°C - 35°C
Size (Dia. x Len.)	62 mm × 252 mm
Weight	< 2 lb
Interface Standard	Bristlemouth-native (plug-and-play)

Data Collection & Outputs

Collection Modes

- Continuous**
Always-on recording with scheduled data offload
- Duty Cycling**
Optional intermittent recording for power or storage-constrained deployments
- Event/Trigger**
Automatic detection triggers high-resolution logging

Data Outputs

- Waveform**
Full acoustic waveform data for detailed analysis
- Spectral**
Frequency domain data for sound characterization
- Event/Trigger**
Timestamped acoustic events based on thresholds
- Sound Pressure Level (SPL)**
Timestamped acoustic events based on thresholds
- Sound Exposure Level (SEL)**
Cumulative sound energy measurements

Our system computes key noise metrics—such as SPL and SEL—by factoring in both the hydrophone’s inherent low self-noise and any added noise from the mooring setup. This combined approach ensures that environmental acoustic signals are captured accurately, free from system interference.

Deployment & Best Practices

- Configuration Options**
Ideal for moored coastal deployments with one Spotter or a network. Integrate up to two more devices (e.g. temperature/salinity) per Smart Mooring (max 3 total)
- Depth Placement**
Place hydrophone ≥ 5 m below surface to avoid noise interference
- Remote Configuration & Controls**
Direct control via Spotter Dashboard, binary/ASCII commands, and Sofar remote support

Data Access & Analysis

- Spotter Dashboard**
View real-time data and insights
- API Access**
Retrieve data programmatically with our secure API
- Onboard Storage**
Download complete spectrogram via Spotter and wav files via BOREALIS SD cards for offline analysis (field-swappable)
- Edge Processing**
Host real-time event-detection models with minimal bandwidth—pre-loaded Hydrotwin™ algorithm available
- Transmission**
Satellite and cellular options

