

# DH-100 Broadband Digital Hydrophone

10 Hz to 100 kHz (Optional 120 kHz)



## Overview

The DH-100 Digital Hydrophone is a high-precision, low-power, integrated underwater acoustic acquisition system designed for demanding marine research, environmental monitoring, and industrial ocean sensing applications.

Integrating a wideband hydrophone element, low-noise preamplifier, high-dynamic 32-bit ADC, and Ethernet connectivity into a compact, durable POM/Nylon housing, the DH-100 eliminates the need for bulky external digitizers and noisy analog transmission lines. Featuring ultra-precise PTP (IEEE 1588) time synchronization and local SD card storage (up to 2TB), it allows researchers and engineers to stream real-time acoustic data or perform long-term autonomous underwater noise profiling with confidence.

## Technical Specifications

| Specification            | Parameter                                            |
|--------------------------|------------------------------------------------------|
| Frequency Bandwidth      | 10 Hz to 100 kHz (Optional hydrophone up to 120 kHz) |
| Sampling Rate            | 128 ksps (Configurable up to 512 ksps)               |
| ADC Quantization         | 32-bit                                               |
| Configurable Gain        | 0 dB, 20 dB, 30 dB, 40 dB, 50 dB                     |
| Data / Control Interface | 100 Mbps Ethernet (Fast Ethernet)                    |
| Time Synchronization     | IEEE 1588 (PTP) / NTP                                |
| On-board Storage         | MicroSD Card supported, up to 2TB                    |
| Operating Depth          | 80 m (Deeper options available on request)           |
| Input Voltage            | 12 VDC (with real-time voltage monitoring)           |
| Power Consumption        | 2.1 W (Typical)                                      |
| Dimensions               | Φ50 mm × H170 mm                                     |
| Weight in Air            | 500 g                                                |
| Housing Material         | High-strength Nylon (Customizable)                   |
| Subsea Connector         | Factory-standard 8-pin wet-mateable connector        |

## Applications

- **Marine Mammal Monitoring & PAM**  
Tracking, localization, and population assessment of cetaceans (whales, dolphins) across broad frequency bands.
- **Ambient & Anthropogenic Underwater Noise Profiling**  
Real-time monitoring of maritime shipping noise, pile driving, offshore construction, and ocean ambient soundscape.
- **Oceanographic Research & Environmental Assessment**  
Subsea soundscape analysis, hydroacoustic surveys, and baseline acoustic data collection for EIA (Environmental Impact Assessment).
- **AUV / ROV / Subsea Glider Integration**
- Compact dimensions  $\Phi 50$  mm x H170mm , 80m rating, and low power make it ideal for unmanned underwater vehicles.
- **Hydrophone Array & Source Localization**  
Utilizing IEEE 1588 synchronization to construct hydrophone line arrays, planar arrays, or distributed spatial tracking networks.

## Noise Curve

