

μPAM Sound Recorder & 2-CH Towed Array

The μPAM ('micro-PAM') is an autonomous underwater sound recorder, which is paired in this application with a 2-ch towed hydrophone array.



The μPAM system provides wideband Passive Acoustic Monitoring, in a small and highly portable package that is ideal for integration into an uncrewed surface vessel (USV) or uncrewed underwater vehicle (UUV) such as a glider. The μPAM is IP67 rated and designed for use in tough, marine environments.

The Seiche μPAM and 2-ch towed array PAM system consists of:

- 27.5-m array section of two hydrophones & preamplifiers, and a 10-bar rated depth sensor
- 4-m deck cable (array to μPAM)
- Uninterruptible power supply (UPS) unit
- μPAM autonomous sound recorder.

Applications

USV integrated sound recorder

Sound level measurement

Marine mammal baseline surveys

Specification

Hydrophone Elements: 2

System Frequency Response: 10-160,000 Hz (-3 dB)

Power Requirement: 12 W (1 A @ 12V)

Weight: 10Kg (Case, tablet and hydrophone cable)

Key Features

- μPAM autonomous sound recorder, housed in a ruggedised aluminium case (IP67 rated enclosure; EMI shielding)
- Connect arrays of up to four hydrophones & low-noise preamplifiers
- Single-board computer, Intel processor, 8 Gb RAM
- Windows and Java platforms to support PAMGuard software
- National Instruments cDAQ-9171 chassis and NI 9222 module for audio sampling at up to 500 kHz/ch (16-bit)
- Measurement Computing USB-1208LS ADC for array depth recording
- 4 Tb solid-state drive enabling continuous data-recording in wav-format, e.g. up to 35 days recording 2 ch at 350 kHz sampling rate (69 days with 8 Tb SSD upgrade)
- Quiet DC source, 12-24 V with power line filter
- UPS for controlled shutdown
- PAM-Dog 'watchdog' software configured to automatically restart recording with project PAMGuard configuration after power supply interruptions
- PAM Checker software enables data volume checks over an Iridium data-link
- Average power consumption 12 W
- Ethernet, serial, USB and external monitor ports
- Optional wireless connectivity
- Dimensions: W 206 mm, H 87 mm, D 260 mm.