Available Hydrophones

Acoustic Hydrophone

Ideal for recording whale songs, dolphin whistles, and/or ambient noise levels our Acoustic Hydrophone records frequencies from 2Hz to 48kHz, with a sensitivity of -165dB re: 1 V/uPa. The hydrophone also features an integrated LED for instant confirmation of unit operation.

Ultrasonic Hydrophone

Ideal for recording dolphin and porpoise echolocations, our Ultrasonic Hydrophone records frequencies from 2Hz to 192kHz, with a sensitivity of -165dB re: 1 V/uPa. The hydrophone also features an integrated LED for instant confirmation of unit operation.

High-SPL Hydrophone

This hydrophone was specifically designed with a lower sensitivity of -240dB re: 1 V/uPa in order to record and quantify very high sound pressure level sounds, such as those produced by pile drivers and air guns. This hydrophone can be ordered alone or along with an Acoustic Hydrophone, to allow the simultaneous recording of quieter sounds.

Kaleidoscope Pro Analysis Software

Kaleidoscope Pro software is an integrated suite of tools that make bioacoustic analysis easier, faster and more effective.

Kaleidoscope acoustic Cluster Analysis detects similar vocalizations in one or many recordings, and quickly sorts them into Clusters for easy labeling or review. You can also build Classifiers from the labeled clusters to search new recordings for similar sounds.

The Kaleidoscope Noise Analysis Module – engineered specifically for marine research – quickly analyzes noise spectrum and generates reports of noise levels. Analysis includes weighted SPL and SEL measurements as well as third octave band analysis. The module is included with a Pro purchase or available for separate purchase.

Kaleidoscope Viewer is a free download to allow listening to your recordings and viewing them on a fully featured spectrogram.

Kaleidoscope Pro Includes:

- Noise Analysis Module
- Acoustic Cluster Analysis
- Build and run species-specific classifiers
- High-speed batch processing
- Sophisticated spectrogram and audio tools
- CSV export for easy reporting

Try Kaleidoscope Free For 15 Days

wildlifeacoustics.com/kaleidoscope

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BIOACOUSTICS MONITORING SYSTEMS

Specifications: Song Meter SM4M

	SM4M Deep Water	SM4M Submersible
Working Depth	800 meters	150 meters
Recording Format	16-bit .wav with 16-bits of dynamic range on each channel for ultrasonic frequencies	16-bit .wav with 16-bits of dynamic range on each channel for ultrasonic frequencies
Sample Rates	**Acoustic:** Nine settings between 8,000Hz and 96000Hz **Ultrasonic:** 192kHz, 256kHz, 384kHz, 500kHz	**Acoustic:** Nine settings between 8,000Hz and 96000Hz **Ultrasonic:** 192kHz, 256kHz, 384kHz, 500kHz
Power	Accepts up to **64 standard D size** disposable alkaline batteries (1.5V) or rechargeable NiMH batteries (1.2V) A minimum of 4 batteries is required for recorder to function, at least 8 is recommended.	Accepts up to **32 standard D size** disposable alkaline batteries (1.5V) or rechargeable NiMH batteries (1.2V) A minimum of 4 batteries is required for recorder to function, at least 8 is recommended.
Storage	Accepts up to **2 SDHC or SDXC cards** (class 4 or higher) for storage capacity up to 1 terabyte	Accepts up to **2 SDHC or SDXC cards** (class 4 or higher) for storage capacity up to 1 terabyte
Dimensions	**Diameter:** 6.5"/16.5 cm **Length:** 58.3"/148.0 cm	**Diameter:** 6.5"/16.5 cm **Length:** 31.4"/79.4 cm
Weight	**Without batteries:** 24.4 kg in air w/1 kg of buoyancy in water **With batteries:** 32.2 kg in air w/ -9.8 kg of buoyancy in water	**Without batteries:** 9.5 kg in air w/5.5 kg of buoyancy in water **With batteries:** 13.5 kg in air w/1.5 kg of buoyancy in water

Maximum Deployment Time in Days

Version	Sampling Rate (Hz)	SM4M Deep Water	SM4M Submersible
Acoustic (100% duty-cycle)	8,000	266	133
	12,000	266	133
	16,000	266	133
	22,050	262	133
	24,000	241	133
	32,000	181	133
	44,100	131	131
	48,000	121	121
	96,000	60	60
Ultrasonic (10% triggered)	192,000	301	153
	256,000	226	153
	384,000	151	151
Ultrasonic (non-triggered)	192,000	30	30
	256,000	23	23
	384,000	15	15
Color Code:		= Limited by battery capacity	
		= Limited by storage capacity	

Note:
Maximum recordable frequency is half of the sample rate.

Assumptions:
All batteries are populated:
32 for SM4M Submersible
64 for SM4M Deep Water
Storage capacity based on two 512 GB cards

Alkaline batteries:
NiMH batteries will provide approximately 60% of the longevity.

Continuous recording:
Significantly longer deployment times can be achieved using a duty-cycled schedule.