

SoundTrap

ST400



Compact Underwater Sound Recorder

Specification

The **SoundTrap** ST400 series are compact, self-contained underwater sound recorders built for acoustic research. They're well known for capturing high-quality audio while using very little power, which makes them ideal for long deployments in remote environments.

The STD model is aimed at general-purpose recording with up to 60 kHz bandwidth, while the HF model is designed for high-frequency recording including cetacean click detection, supporting up to 150 kHz bandwidth. Both models have very low self-noise, so they can capture clean, detailed recordings in the quietest underwater conditions.

The ST400 series is designed for short to medium term deployments and can hold up to two rechargeable batteries and up to 2 TB of microSD storage, providing up to 14 days of continuous recording. Batteries and memory are field-swappable, making it easy to service and redeploy units quickly in the field.

Recordings are saved in standard WAV format, so they work easily with most analysis tools. The included software also gives you flexible setup options, including sample rate selection, delayed start, and duty cycling.



Applications

- Marine mammal monitoring
- Fish research
- Noise monitoring
- Toothed whale click detection

Features:

- Up to 14 days battery life
- Up to 2TB of data storage on 4 x microSD cards
- Fast field swappable batteries and memory
- 60 or 150 kHz bandwidth (STD & HF models)
- Very low self-noise
- Toothed whale click detector (HF only)
- Compact acetal housing

Detailed Specifications

Bandwidth	STD	flat 20 Hz - 60 kHz ($\pm$ 3dB)
	HF	flat 20 Hz - 150 kHz ($\pm$ 3dB)
Self-noise		Better than sea-state 0 (100 Hz - 2 kHz)
	STD	Less than 36 dB re 1 μ Pa above 2 kHz
	HF	Less than 37 dB re 1 μ Pa above 2 kHz
Gain		Max level before clipping: 188 dB re 1 μ Pa.
Sample rates	STD	192, 96, 64, 48, 32 & 16 kHz
	HF	384, 192, 128, 96, 64 & 32 kHz
ADC		16-bit SAR
Calibration		Factory calibration certificate (single point 250Hz)
Memory		4 Slots for up to 4 x 512GB removable SDXC cards for up to 2TB total (Stores up to 6TB wav data using loss-less compression)
Batteries		2 x Lithium Ion 18650 cells, providing up to 14 days continuous operation. Batteries not included.
Click Detection	(HF model only)	Allows detection and journaling of toothed whale bio-sonar clicks. Detector runs in parallel with normal recording process. Conserves memory by simultaneously using a low sample rate for WAV recording and high sample rate for click detection. See user guide for more information.
Housing		Acetal. Maximum depth is 200m.
	Dimensions:	235mm Long x 64mm Diameter
	Weight:	650g in air with 2 batteries loaded
		50g in water with 2 batteries loaded