

SoundTrap ST500

Underwater Sound Recorder

STD & HF models



Applications

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

Features:

- Up to 180 days recording on 9 x regular D cell batteries
- Up to 1TB of data storage (= 3 TB of uncompressed wav data)
- 90 or 150 kHz bandwidth (STD & HF models)
- Very low self-noise
- Extremely low power (~35 mW)
- Toothed whale click detector (HF only)

The SoundTrap ST500 series are compact self-contained sound recorders for underwater acoustic research. SoundTrap recorders are well known for their unique ability to record high quality audio while consuming very little power.

The STD model is intended for general purpose use with 90 kHz of bandwidth while the HF model enables high frequency recording and cetacean click detection with 150 kHz of bandwidth. Both models feature very low self-noise, ensuring beautiful recordings in even the quietest places.

The ST500 series are intended for long term deployments. They are our largest models, thereby allowing them to carry up to 9 regular D cell batteries capable of delivering up to 180 days of continuous recording.

Advanced loss-less audio compression coupled with up to 1TB of memory provides storage for up to 180 days of continuous recording at a 96 kHz sample rate.

Output files use the industry standard WAV format. The included software offers flexible deployment options for sample rate, delayed start and duty cycle.

The HF model includes a toothed whale click detector for memory efficient PAM.



Detailed Specifications

Bandwidth	STD	20 Hz - 90 kHz \pm 3dB
	HF	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: 173 dB re 1 μ Pa.
Sample rates	STD	288, 144, 96, 48, 36 & 24 kHz
	HF	576, 288, 192, 96, 72 & 48 kHz
ADC		16-bit SAR
Calibration		Factory calibration certificate (single point 250Hz)
Memory		Internal 256 GB (Equivalent to ~1TB due to advanced loss-less compression) 3 Slots for up to 3 x 256GB removable SDXC cards for up to 1TB total
Batteries		9 x D alkaline cell batteries. Provides up to 180 days continuous operation. For recording endurance refer to the calculator on our web site.
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 manual for more information.
Housing		Titanium. Maximum depth is 100m, or 500m with optional safety valve. Dimensions: 350mm Long x 100mm Diameter (excluding hydrophone) Weight: 4.2 kg in air with 9 x D cells loaded