

## SoundTrap ST300 Digital Sound Recorders

### STD & HF models

#### Key features:

- Industry leading audio fidelity
- Very low self-noise
- 60 kHz and 150 kHz bandwidth models
- Up to 13 days continuous recording on internal battery
- Up to 70 days continuous with optional external battery (3 x D cell)
- Simple operation with IR remote control
- Sealed, low maintenance, flood proof housing
- Fast USB offload
- Toothed whale Click detection (HF only)

The SoundTrap 300 series are compact self-contained underwater sound recorders for ocean acoustic research. The STD model is intended for general purpose use with a working frequency range of 20 Hz to 60 kHz. While the HF model offers 20 Hz to 150 kHz bandwidth for higher frequency bioacoustic research. Both feature very low self-noise, ensuring beautiful recordings in even the quietest places.

An internal battery enables continuous recording for up to 13 days, or 56 days on a 10 minute per hour duty cycle. For longer deployments plug in the optional external battery pack for up to 70 days continuous recording. Up to 256 GB of internal memory coupled with lossless audio compression provides storage for up to 65 days continuous recording at 72 kHz.

Data offload and battery recharge are done via a high quality wet plug. The housing therefore never needs opening eliminating the usual worries about o'ring maintenance and moisture ingress. Weighing less than 500 g in air, hydrophone deployment has never been so easy.

Output files are in the industry standard WAV format. Ancillary sensors are included for logging temperature and tri-axial acceleration. The included software offers flexible deployment options for sample rate, gain control, filtering, delayed start and duty cycle. Plus the included water proof IR remote control makes for convenient in-the-field ad hoc measurements. Each instrument is supplied with a calibration certificate and features self-calibration checks for confirmation of performance in the field.



## Detailed Specifications

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### Bandwidth

**STD model** 20 Hz - 60 kHz  $\pm$  3dB

**HF model** 20 Hz - 150 kHz  $\pm$  3dB

**Self-noise** Better than sea-state 0 (100 Hz - 2 kHz)

**STD model** Less than 34 dB re 1  $\mu$ Pa above 2 kHz

**HF model** Less than 37 dB re 1  $\mu$ Pa above 2 kHz

**Gain** Two gain settings - Low noise and high dynamic range.  
Maximum level before clipping approx. 186 dB re 1  $\mu$ Pa

**High Pass Filter** 400 Hz selectable high pass for high energy sites

### Sample rates

**STD model** 288, 144, 96, 48, 36 & 24 kHz

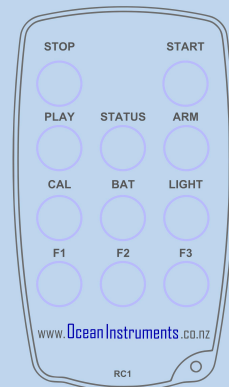
**HF model** 576, 288, 192, 96, 72 & 48 kHz

**ADC** 16-bit SAR

**Calibration** Factory OCR calibration certificate  
Self-calibration check  
Pistonphone coupler available

**Control** Waterproof IR remote control for manual record start/stop.

**Ancillary sensors** Temperature - 0.1°C precision, 1°C uncalibrated accuracy in water  
Acceleration – For detecting orientation, or cable strum / platform vibration.  
Tri-axial accelerometer, +/- 8g, Sampling up to 1 Hz



**Click Detection**

HF model only. Allows detection and journaling of high frequency marine mammal 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.

**Memory** 128 or 256 GB Note - loss-less audio compression provides 3-4 times compression, thereby allowing for up to 1TB of wav file storage.

**Internal battery** An internal rechargeable battery provides power for up to 13 days continuous operation

**External battery** The optional external battery housing takes 3 x D cell batteries, and provides up to 70 days continuous operation.

**Connectivity** Wet pluggable connector for connection to GPS or radio telemetry.

**Maximum depth** 500m (Extended depth version available on request)

**Dimensions:** 200mm L x 60mm D (excluding connector dummy)

**Weight** Approx. 500g in air

## Recording Endurance Table (128GB memory)

Sample Rate(kHz)	Duty Cycle	Endurance (days)	With external battery (days)
36	Continuous	13	64
36	10 minutes per hour	56	278
48	Continuous	13	51
48	10 minutes per hour	56	278
96	Continuous	13	25
96	10 minutes per hour	56	153
144	Continuous	13	17
144	10 minutes per hour	56	102
288	Continuous	8	8
288	10 minutes per hour	51	51
576	Continuous	4	4
576	10 minutes per hour	25	25

Table values assume atypical X3 compression rate of 3x and water temp above 20 degrees Celsius.

