SoundTrap 4300

Four Channel Digital Sound Recorder

Provisional Specification

Key features:

- **Selectable 1 to 4 channel recording**
- **Pluggable cabled hydrophones**
- **288 kHz x 4 channel sampling (90 kHz bandwidth)**
- **Up to 8 days continuous 4 channel recording on internal battery**
- **Up to 30 days continuous with optional external battery (3xD cell)**
- **Simple operation with IR remote control**
- **Sealed, low maintenance, flood proof housing**
- **Fast USB offload**

The SoundTrap 4300 is a four channel digital acoustic recorder intended for ocean acoustic research. Its unique ability to record synchronous high bandwidth audio on four channels make it ideal for creating tetrahedral or sparse linear arrays. Applications include sound localisation and particle motion studies.

The ST4300 is designed to be used with special edition low noise HTI hydrophones, available direct from High Tech Inc, USA. Pre amplification is done at the hydrophone, meaning these can be cabled to your required length.

An internal battery enables continuous recording for up to 8 days, or 24 days on a 10 minute per hour duty cycle. For longer deployments plug in the optional external battery pack for up to 30 days continuous recording. 128 GB of internal memory coupled with lossless audio compression provide storage for up to 16 days continuous four channel recording at 36 kHz.

Data offload and battery recharge are done via a high quality wet connector. The housing therefore never needs opening, thereby eliminating the usual worries about o'ring maintenance and moisture ingress. Weighing less than 500 g in air, hydrophone deployment has never before 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 channel selection, sample rate, delayed start and duty cycle. The included water proof IR remote control makes for convenient in-the-field ad hoc measurements, and a self-calibration feature provides confirmation of performance in the field.

Detailed Specifications

Hydrophones	To be purchased separately from High Tech Inc, USA. HTI product code: HTI-96-MIN/3V/Low Noise/SoundTrap/-165dB
Bandwidth	20 Hz - 90 kHz ± 3dB
Self-noise	Better than sea-state 0 (100 Hz - 2 kHz) Less than 41 dB re 1 µPa above 2 kHz
Sample rates	288, 144, 96 & 48 kHz
ADC's	4 x 16-bit SAR
Calibration	Self-calibration check
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
Memory	128 GB. Lossless audio compression typically provides 3 times compression, thereby allowing for up to 384 GB of wav file storage.
Internal battery	An internal rechargeable battery provides power for up to 8 days continuous operation
External battery	The optional external battery housing takes 3 x D cell batteries, and provides up to 30 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