RESEA (EA-SDA Family)

Autonomous Hydrophone Recorder

Long-Term – Broadband – Easy to Use

Key Characteristics

- **Multi-Channel:** Up to 4 hydrophone inputs*
- **Broadband:** from 3 Hz to over 500 kHz
- **Wide dynamic:** 24 bit recording
- **Available in 3 sizes:** 320, 550, 1210mm
- **Easy to use:** intuitive interface with selectable duty cycle, sampling rate, gain and high pass Filter.

Description

RESEA is a family of autonomous recorders able to acquire sounds on a broadband hydrophone for a long period.

These acoustic recorders accept both passive and pre-amplified active hydrophones. Their broadband analog inputs reach over 500 kHz with a dynamic range greater than 100 dB guaranteeing efficient signal to noise ratio.

The embedded digital signal processor allows high speed acquisition, filtering and storage. Data is stored either on an SD memory card or hard drive in *.wav format, directly compatible with processing programs such as ©Matlab, ©LabVIEW and ©PAMguard.

The RESEA can be programmed with a mission schedule including start date, sleep and record periods, in order to improve battery life. Its power consumption is between 600 mW and 2 W in active mode and 1mW in sleep mode. Configuration and recovery of data are made using Ethernet connection and an intuitive web browser interface.

Sampling limits:
1 channel recording = up to 1250 kS/s
2 channels = up to 625 kS/s on each channel
4 channels = up to 312,5 kS/s on each channel

* EA-SDA1210 limited to 2 channels

Dims:	OD 12 x L 32, 55 or 121 cm
Weight:	**5 -** 20 kg (air), 2 - 10kg (water)
Power:	6, 18 or 54 Alkaline or Li-SOCl2 D cells or Rechargeable Li-ion battery
Storage:	128 or 256 GB SD Card, 1TB - 4TB HDD
Depth:	200, 700 or 6000m

Applications

- **Noise impact studies**
- **Cetacean research**
- **Offshore renewable energies**
- **Environmental monitoring**
- **Seismic / Shipping / Construction**

Options

- **Interchangeable hydrophones**
- **GPS**
- **Conductivity-Temperature-Depth**
- **Up to 4 TB memory on HDD**
- **Low power mode**
- **Rechargeable batteries**
- **Low frequency module**
- **Embedded processing**

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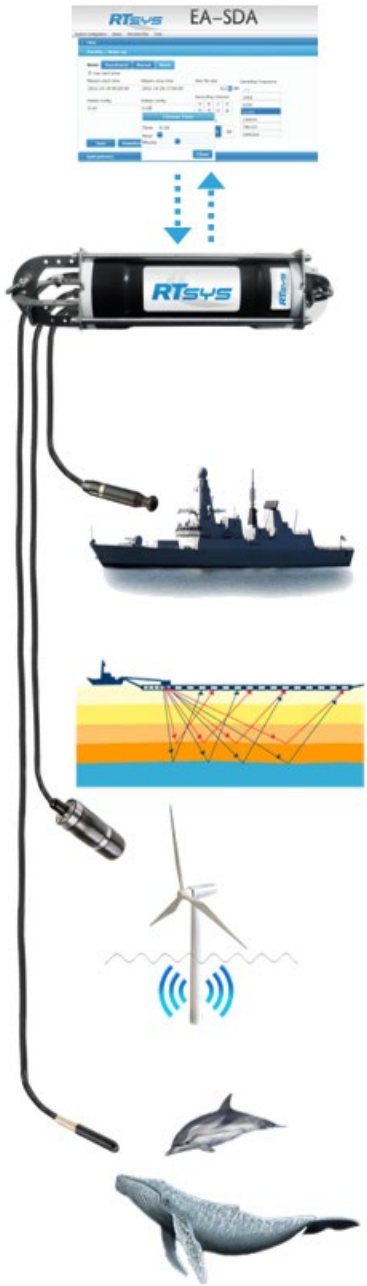
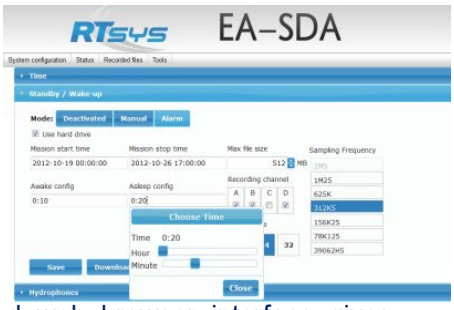


Broadband frequencies and great dynamic range

Eight recording frequencies are selectable from 39 kHz to over 1000 kHz, allowing noise monitoring over a frequency bandwidth from 3 Hz to more than 500 kHz, This ensures great dynamics and Signal to Noise Ratio (>100 dB). This high SNR allows recording of strong and low-level noise simultaneously.

Channels are electronically synchronized and calibrated at +/- 0.1 dB.
Gains are configurable on each channel from -10 dB to +24 dB
High pass filters are also configurable (3 Hz, 300 Hz, 3 kHz…).

Easy to use

The 

integrated web browser interface gives intuitive access to configuration of the recorder and to the recorded files.

After the mission, the EA-SDA1000 is recovered and data downloaded by Ethernet via the embedded software of FTP server (downloading speed: 7 MB/S). This allows the user to collect quickly the data without having to open the recorder.

Multi-hydrophone compatibility

RESEA recorders are compatible with any type of calibrated passive and/or pre-amplified hydrophones from different renowned manufacturers – High Tech, Inc., Reson, Brüel & Kjaer, Colmar, etc. Hydrophone cable length is also selectable.

Long term autonomous deployments

Using duty cycles can extend the length of deployment. The table below shows EA-SDA1000 performances at different sampling rates and duty cycles.

Configuration		Duty cycles and configuration examples							
Sampling rate	Recording frequency	100% Continuous recording	75% 45 min ON 15 min OFF	50% 10 min ON 10 min OFF	40% 24 min ON 36 min OFF	33% 10 min ON 30 min OFF	25% 15 min ON 45 min OFF	17% 10 min ON 50 min OFF	10% 1 hour ON 10 hours OFF
		Total autonomy endurance							
39 kHz[1]	**3 Hz – 15 kHz**	40 days	53 days	**80 days**	**100 days**	**121 days**	**160 days**	235 days	**400 days**
48 kHz[2]	**3 Hz – 20 kHz**	103 days	137 days	**206 days**	**258 days**	**312 days**	**412 days**	606 days	**1030 days**
312 kHz[1]	**3 Hz – 150 kHz**	35 days	47 days	**70 days**	**87 days**	**106 days**	**140 days**	206 days	**350 days**

[1] high quality mode [2] low-power mode

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