



*Acoustic Systems Performances
Check and Measurement*



Sonar Operator Training

Description

SIERA offers a solution for the characterization and calibration of underwater acoustic systems (hull-mounted sonars, dipping sonars, variable depth sonars, buoys). SIERA also allows radiated noise measurements in the far field.

SIERA is an autonomous system towed at variable immersion from a dedicated boat.

SIERA is composed of 4 subsets:

- A processing and visualizing unit;
- A light towed body;
- Two winches for towline storage;
- Two 250 m electrical cables equipped with waterproof plugs and associated extension cables.

SIERA is subject to export control restrictions.

Advantages

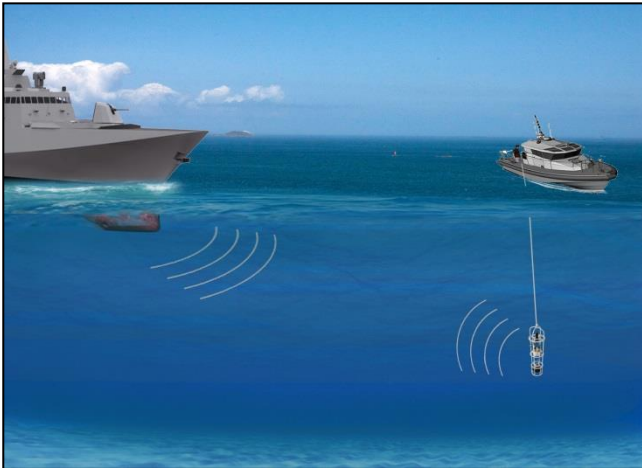
- Lightweight and easy to implement
- Easily measure and characterize the performance of a sonar system
- Real-time or delayed signal processing.
- Easy deployment and recovery

Payloads & Options

- GPS positioning
- Transducer
- Pressure Sensor
- Hydrophone

Supplied Hardware

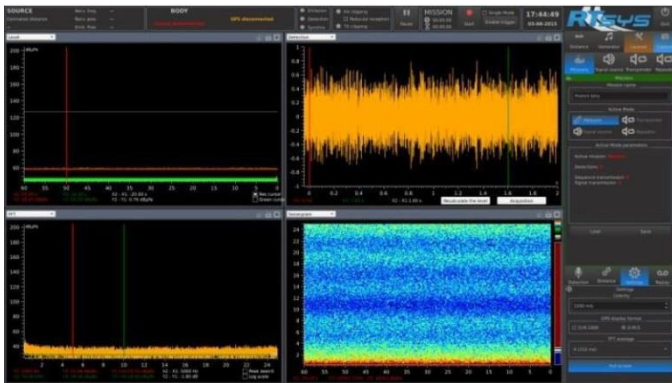
- Storage bag
- Extension cable
- GPS-PPS antennas
- Hand mast



Easy to deploy from a support boat



SIERA subsets



SIERA GUI

Towed body

- Welded and screwed mechanical parts in 316L stainless steel
- B&K 8106 Hydrophone
- Neptune Sonar D/11/BB Transducer
- Watertight enclosure:
 - 3 waterproof plugs;
 - Pressure sensor;
 - Protecting and filtering electronics.

- **Removable storage plug**

Two 250 m towed electrical cables equipped with two waterproof connecting sockets.

Two aluminium winches equipped with a retractable handle, a locking system and mounting brackets on the deck.

Acquisition and CAG generation box

The acquisition and CAG generation box is composed of the following elements:

- 19 inch 6U enclosure with removable front panels, wheels and retractable handle;
- 1U acquisition unit and application software;
- 2 class D amplifiers, each in 1U format;
- 3U impedance matching unit;
- Wiring and connecting tools.

Configuration and processing unit

- Connecting unit and laptop
- Operating system
- Software application
- Removable data storage unit

Recording capacities

- Reception sensibility: sea state 0 up to 180 dB/μPa
- Emission level:
 - 185 dB from 3 to 20 kHz
 - 120 to 185 dB from 200 Hz to 3 kHz
 - 185 to 170 dB from 20 kHz to 35 kHz
- Frequency band (E/R): 200 Hz to 35 kHz
- Measures in ref: dB/μPa related at 1 m

Towed body dimensions

- Length: 1312 mm
- Diameter: 205 mm
- Weight: 19 kg