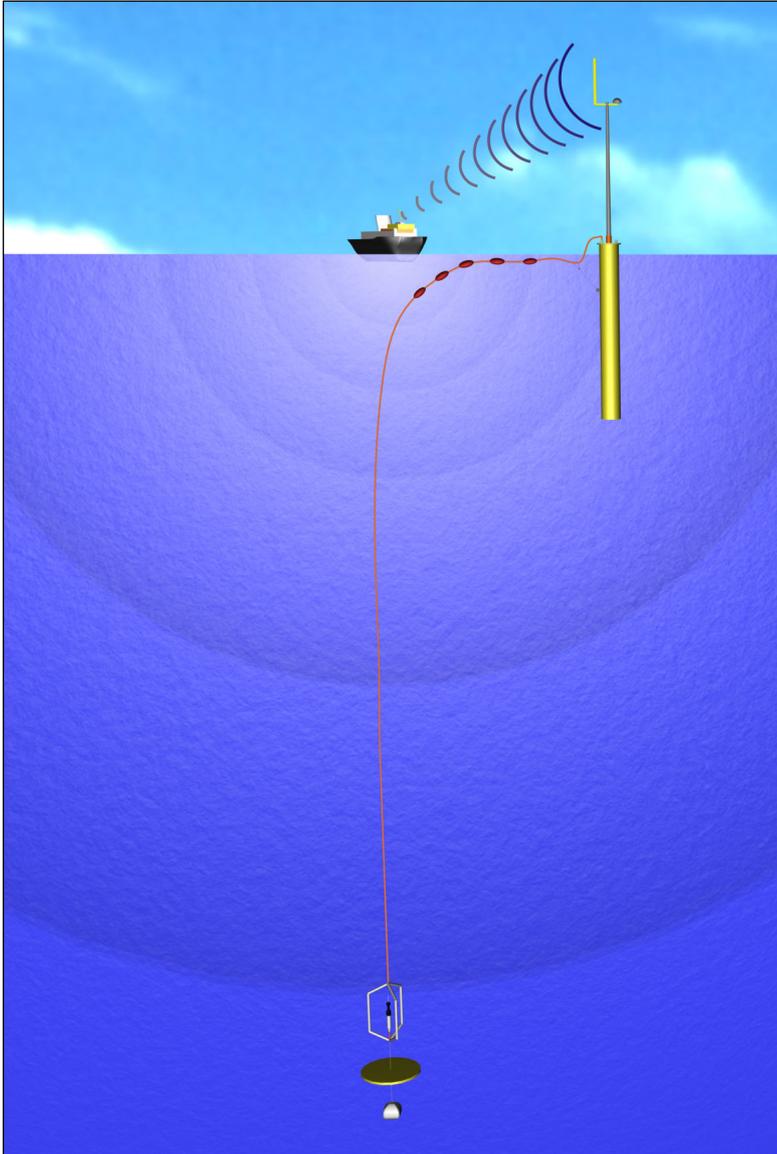


RE.MO. BUOY II

Remote Monitoring Buoy



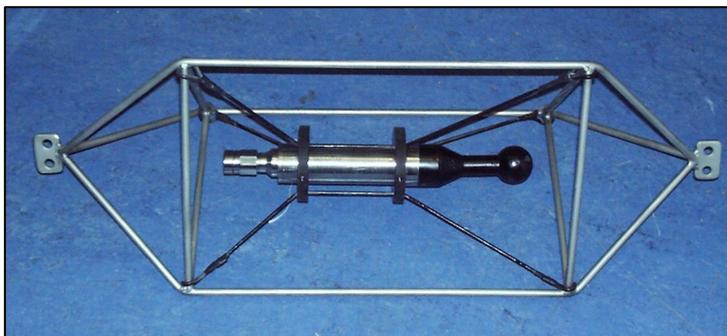
Acquires and records underwater acoustic data making them available to a remote station installed on board a vessel or onshore. The system is made of a preamplified hydrophone with its suspension cable connected to an ultra light spar buoy and a receiving station. The underwater acoustic station and data processing hardware have been designed in order to minimise low frequency noise. Data (10-48.000 Hz bandwidth) are recorded on the buoy embedded PC equipped with a solid state disk . GPS data are also recorded on the buoy and at the receiving station. The receiving unit allow to connect a standard PC to the buoy via a wide band wireless link, to send commands and to receive acoustic (.wav format) and GPS data in real time. The .wav files and the calibration diagram supplied with the system allow to calculate the acoustic pressure at the hydrophone. GPS data allow to obtain the buoy-receiving station range for transmission loss estimation.

Applications

- *Self-Noise-Assessment*: the buoy is launched from the ship that acquire in real time her own acoustic emission while sailing around the drifting buoy at different speeds and assets.
- *Ambient Noise Measurement*: ambient noise can be monitored and recorded from a vessel or from onshore.
- *Environmental Monitoring*: monitoring from a vessel or from onshore in order to detect and record bioacoustics signals (cetacean vocalisation).
- *Detection*: passive monitoring of a restricted area in order to detect intrusions.

Technical specifications

- Colmar GP0280 omnidirectional preamplified hydrophone
- Hydrophone sensitivity: -170 dB re 1 V/uPa
- Low frequency attenuation 6dB/octave with -3db @ 740Hz (customisable)
- Sampling: 96.000 Hz - 16 bit
- System Noise lower than Sea State Zero
- Battery life: over 12 hours
- Solid state memory: 32GB (more than 40 hours recording time)
- Wireless Link: 2.4GHz up to 5Mbit/s (>500m range)
- n°2 12 channel GPS, Waas / Egnos enabled
- Buoy body in aluminium treated with hard oxidation, dimension 14x180cm, antenna 150cm
- Buoy weight in air 30 kg
- Spar- buoy design to stabilise the antennas
- Vertical hydrophone oscillations damping system
- Hydrophone-waves decoupling system
- Hydrophone frame for hydrophone protection and mechanical isolation



Mean features

- *Accuracy:* reliable low frequency measurement thanks to low system noise and hydrophone isolation.
- *Sensitivity:* data acquired by an high quality professional COLMAR preamplified hydrophone.
- *Compatibility:* the system is compatible with

any software reading .wav files, optionally data analysis software are available.

- *Reliability:* hard environment design. In case of radio link drop the buoy keeps acquiring and recording.No data is lost.
- *Security:* copy of the data is stored on the solid state disk inside the buoy.
- *Functionality:* only 30 kg weight. Can be handled by a single man without lifting tools.



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