

PUAMS-SS03

Portable Underwater Acoustic Measuring System

Description

The local measuring subsystem collects analog acoustic data from a vertical hydrophone (up to 4) array hanging from a data buoy. Its electronic package digitizes, records, processes and transfer the data in real time. It encrypts and transmits the data over the air or fiber optic to the remote system for further processing and display. Several local measuring subsystems can be cascaded together (option).

The remote processing/display subsystem can receive and process in real time data from several local measuring subsystems.

For improved accuracy, positional data between the PUAMS and the vessel under measurement is provided in by an autonomous DGPS subsystem or an underwater tracker (option).

A user-friendly man-machine interface (MMI) is provided by the system software, enabling the operator to evaluate in real time and capture all ranging data into a database, simultaneously processing and displaying the acoustic signature of the vessel. Depending on specific customer needs reports and data files can be generated by post-processing recorded data (acoustic signature management, faulty equipment detection, troubleshooting, etc.)

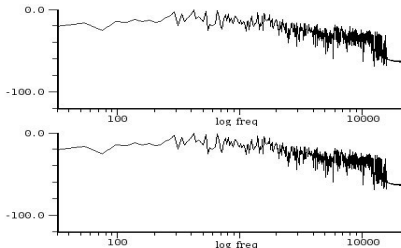
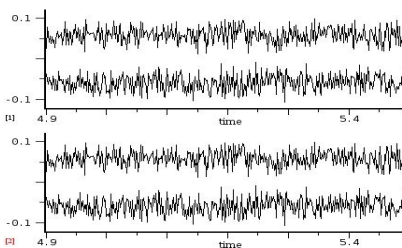
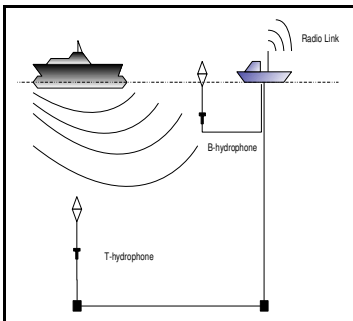
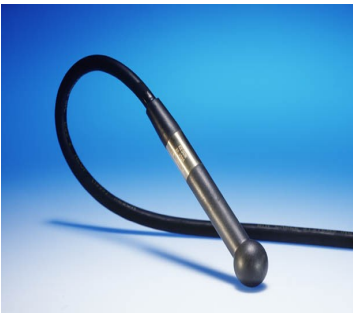
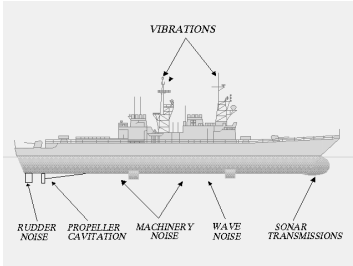
Documentation, training and technical assistance for data collection and analysis are included in the product

Introduction

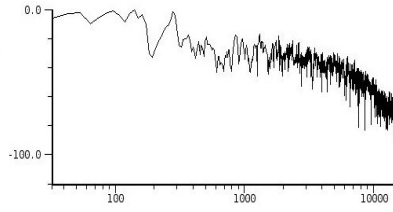
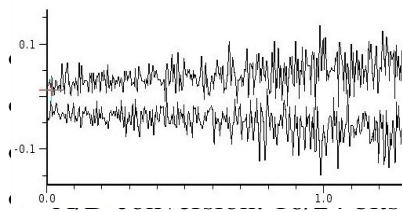
The **PUAMS-SS03** system is a Portable Underwater Acoustic Measuring System.

The **PUAMS-SS03** system is autonomous, easily deployable from a small support vessel or platform without the need of any shore based infrastructure and can be used as a portable acoustic range for measuring the acoustic signature (in static or dynamic conditions) of surface and underwater vessels.

The **PUAMS-SS03** system is modular, manufactured from COTS components and consists of the local measuring subsystem, the remote data processing subsystem and various optional accessories according to the specific customers requirements.



Technical Specifications



- Sensitivity: -170 dB re 1 μ P or better
- Processor Dynamic Range: better than 100 db
- Sampling Frequency: 192 kHz
- Real time FFT with down to 1 Hz resolution
- Accurate real time distance measurement between Local Measuring Device and Vessel under measurement to DGPS accuracy (better than 1 meter) and, optionally, an Acoustic Tracker / Pinger (better than 5 meters)
- PUAMS Software enables the capture, recording, processing and display of underwater sounds as waveforms and spectrograms (FFT). Recorded data is provided in a form suitable for processing by other COTS analysis suites.
- The operator can evaluate captured acoustic data in real time, capture data, view graphical representations, and export data for further analysis on other platforms.
- Automatic production of STANAG 1136 reports
- Hardware (data collection and processing subsystems) is computer-based and comes complete with all necessary cables and plugs for connection to external sensors and subsystems.
- Real-time telemetry is effected via a Radio LAN. Data is transmitted from local (data collection) systems to a remote system for further processing and archiving.
- Measurements are time-stamped by use of an embedded GPS-synchronized real time clock
- Operating Temperature: 0 - 50 degrees Celsius
- Autonomy: > 6 hours (sealed battery system)
- The equipment is packed in man-portable hermetically-sealed PVC cases (IP56) customized according to customer specific system configuration.
- Deployment / recovery time: less than 120 minutes

Scope of Supply

- Local Measuring Subsystem package comprising :
 - Hydrophones,
 - Cables,
 - Data Logger
 - V/UHF radios
 - DGPS
 - Telemetry LAN (Fiber Optic or Radio)
 - Underwater Tracker (option)
 - Underwater telephone (option)
 - Battery System
 - Transportation cases
- Remote Processing Subsystem package comprising:
 - Calibration Beacon
 - Processing and Display System
 - Software Utilities
 - V/UHF radios
 - DGPS
 - Telemetry LAN (Fiber Optic or Radio)
 - Underwater telephone (option)
 - Transportation cases
 - System & Application Software
- Technical Assistance in data collection
- Technical Assistance in data Analysis
- Training
- Documentation
- Warranty: 24 months following site acceptance test

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