Ultra Light Vertical Array Remote Data Acquisition System
(ULVA/RDAS version 2)

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Abstract: In the framework of the ATOMS project, a project devoted to study uppwelling processes off the S. Vicente Cape, Portugal, by oceanographic and acoustic means, it was requested to adapt an existent underwater acoustic acquisition system named Ultra Light Vertical Array (ULVA) to fulfil the project requirements. The ULVA system was a vertical instrumented with up to 16 hydrophones and various non-acoustic sensors (thermistors, tiltmeters and pressure gauges). The ULVA system was used during the INTIFANTE project sea trial, where the acquired data were transmitted through a radio link to a remote PC station located in a vessel for storage, monitoring and online processing. In order to overcome data loses due to radio link fails, identified during the INTIFANTE sea trial, and improve the mobility of the vessel where the PC station is located, a must for the ATOMS project, it was decided to transform the ULVA system into an autonomous acquisition system with local storage facilities, lower power consumption, capability of on line remote quality control of the acquired data and positioning information. The first version of this new system, named Ultra Light Vertical Array/Remote Data Acquisition System (ULVA/RDAS), was described in the report. During the sea trial MREA'04 it was found that an auxiliary UHF radio link used to send some commands to the ULVA, like switch on/off the power or switch on/off the array electronics, remains a source of problems in the ULVA/RDAS. Thus, it was decided to remove the UHF link from the system, emulating its facilities by new developed hardware. In this new version (second) of the ULVA/RDAS system, it was also introduced a new monitoring software, in order to improve its robustness and share a common user interface with other SiPLAB acquisition systems. This report describes the actual ULVA/RDAS system (version 2) and is intended as a system reference and user guide.

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