SYSMAR MARINE RESISTIVITY SYSTEM

The **SYSMAR** Marine Resistivity System has been developed to acquire resistivity imaging surveys in a continous mode, such as in marine applications.

The **SYSMAR** Marine Resistivity System includes a SYSCAL Pro Resistivity Meter, a Resistivity Streamer integrated with GPS / Echo Sounder and the **SYSMAR** Software.

Thanks to its **10 reception channels**, the SYSCAL Pro will measure simultaneously 10 resistivity data points corresponding to 10 depth levels.

The **short current injection time** (150 ms) allows to record a set of 10 resistivities very quickly ; in case of a GPS/Sounder recording during the profile, the acquisition step is about 2 s.

The **high current injection value** (up to 2.5 A) allows to obtain a high quality result even in case of highly conductive areas (like in salt water).

All these specifications make this tool very efficient for continuous survey, and is so perfectly adapted for marine applications.

A GPS can be directly connected to the SYSCAL Pro unit thanks to a serial link communication ; thus, the position of the electrodes for each measuring point will be known accurately.

For marine acquisition, if a sounder is integrated to the GPS, the water depth can be also continuously recorded to help the interpretation.

The electrodes cable includes 13 takeout (2 for the injection of the current and 11 for the reception of the potentials).

For marine application, the standard takeouts are made of graphite; this allows to get low resistance values and to avoid corrosion due to water contact.

The standard spacing between takeouts is 4 meters. Cable with specific distances can be supplied to match our requirements.

Marine survey performed near La Rochelle (France)

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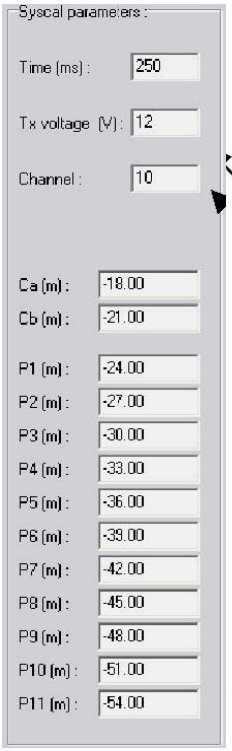
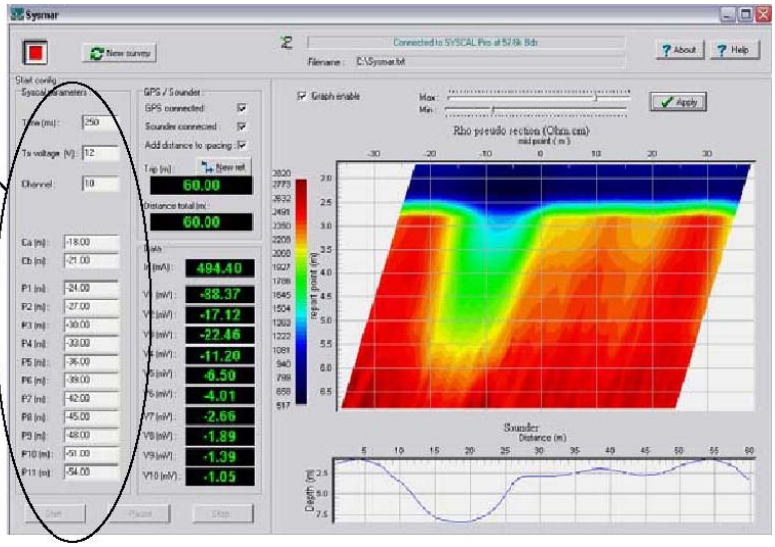
SCHEMATIC OF THE SYSTEM IMPLEMENTATION

After setup, the measurement can be run.
The data, recorded by the SYSCAL Pro, are continuously transferred to a laptop computer by a serial link communication.

The voltage reception value of each channel is displayed continuously. Moreover, a 2D pseudo section of resistivity together with the water depth are displayed in real time.

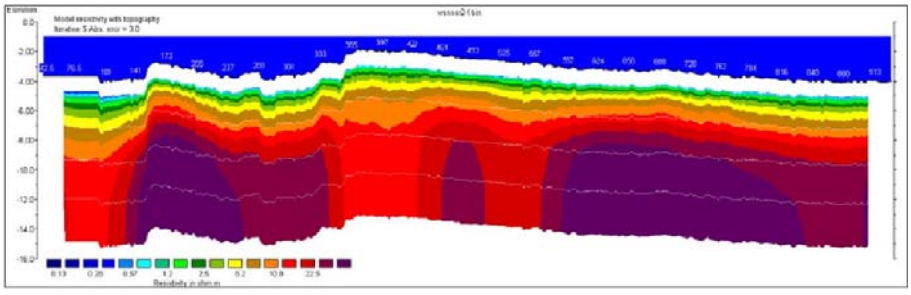


Setup area



Real time resistivity pseudo-section picturing

The measurements together with the GPS / Sounder data are stored automatically into a "txt" file and into a binary file readable by PROSYS software ; from this software, one has then the possibility to process and export the data for a 2D interpretation, such as **RES2DINV**.



Interpreted marine resistivity section