

IRIS INSTRUMENTS

Sysmar Software

The **SYSMAR** software is an acquisition and picturing program designed to manage resistivity surveys in continuous mode, such as in marine applications.

The resistivity-meter devoted to perform such survey is the SYSCAL Pro unit.



Thanks to its 10 reception channels, the SYSCAL Pro allows to obtain 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 bottom can be also continuously recorded to help the interpretation.

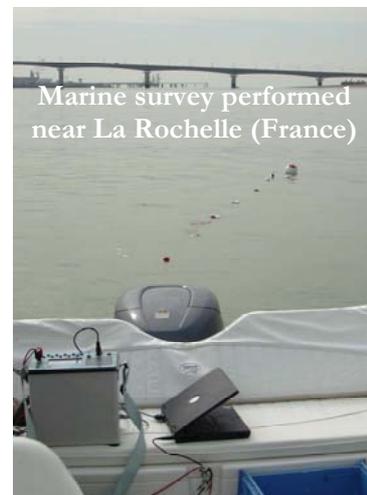
The electrodes cable owns 13 takeout (2 for the injection of the current and 11 for the reception of the potentials).

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

For land application, another cable has been specifically designed.

The standard spacing between takeout is 3 to 5 meters.

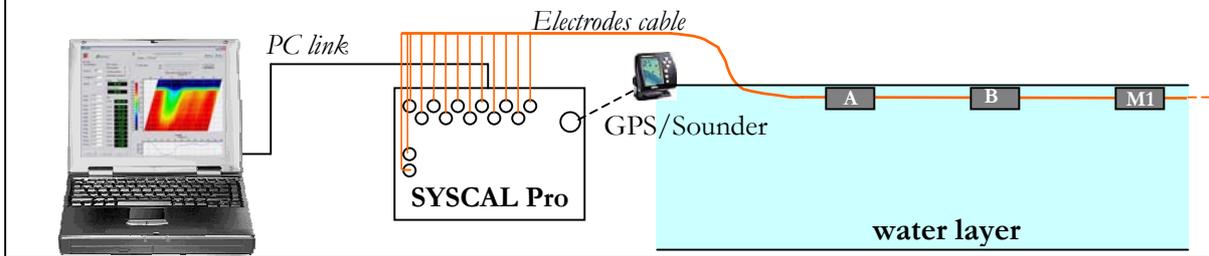
Cable with specific distances can be supplied to match your requirements.



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SCHEMATIC OF THE SYSTEM IMPLEMENTATION IN MARINE ENVIRONMENT



Syscal parameters :

Time (ms) : 250

Tx voltage (V) : 12

15 V Range 5 V

IP Data

Channel : 10

Ca (m) : -22.00

Cb (m) : -24.00

P1 (m) : -20.00

P2 (m) : -26.00

P3 (m) : -18.00

P4 (m) : -28.00

P5 (m) : -16.00

P6 (m) : -30.00

P7 (m) : -14.00

P8 (m) : -32.00

P9 (m) : -12.00

P10 (m) : -34.00

P11 (m) : -10.00

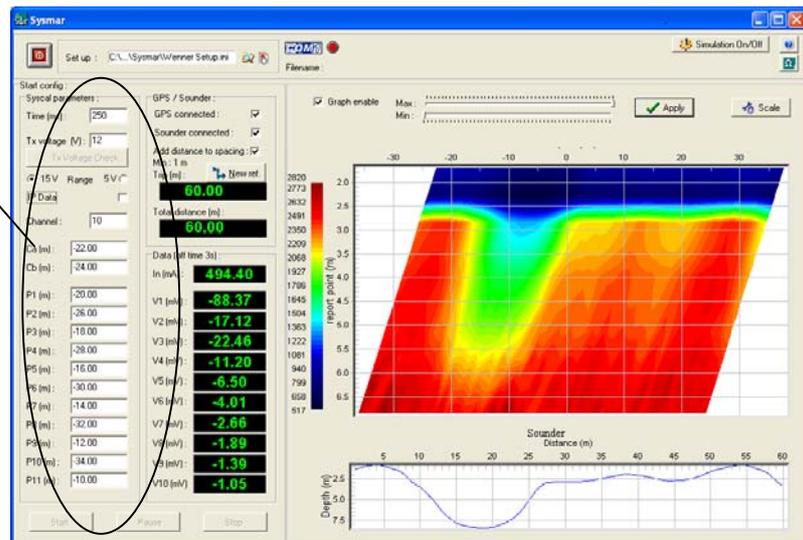
Setup area

After setup (position of the electrodes, injection voltage...) the measurement is run by the software.

The data, recorded by the unit, are continuously transferred to a laptop computer by a serial or a USB link.

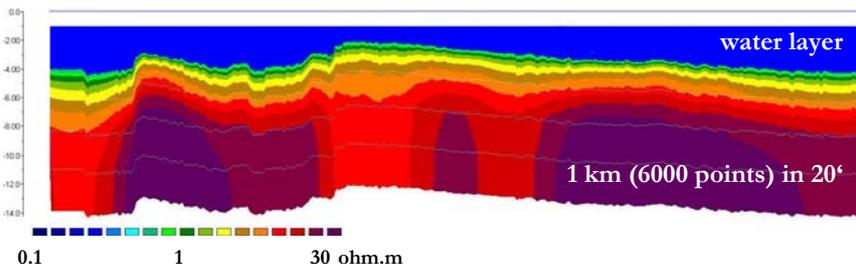
The voltage reception value of each channel is displayed continuously.

Moreover, an apparent resistivity section together with the water bottom are displayed in real time on the PC screen.



Acquisition window

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



Interpreted marine resistivity section by Res2dinv software

