

# UltraLab<sup>®</sup> UWS

## The Lab Echo Sounder



### High resolution distance measuring in water:

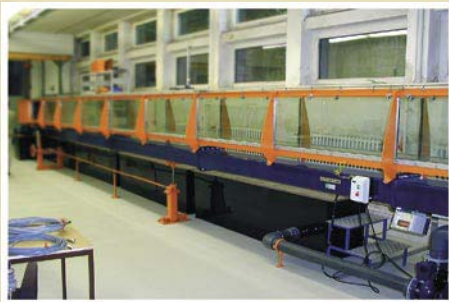
- Underwater bottom contours
- Sole and surface water models
- Hydraulic models
- Sedimentation and erosion processes
- Real time sediment transport processes

The miniature echo sounder works with an ultrasonic impulse run-time procedure. It was developed for highly time and position resolved measurements of distances in fluids. Fluid level measurements through container walls are also possible with an optional adapter.



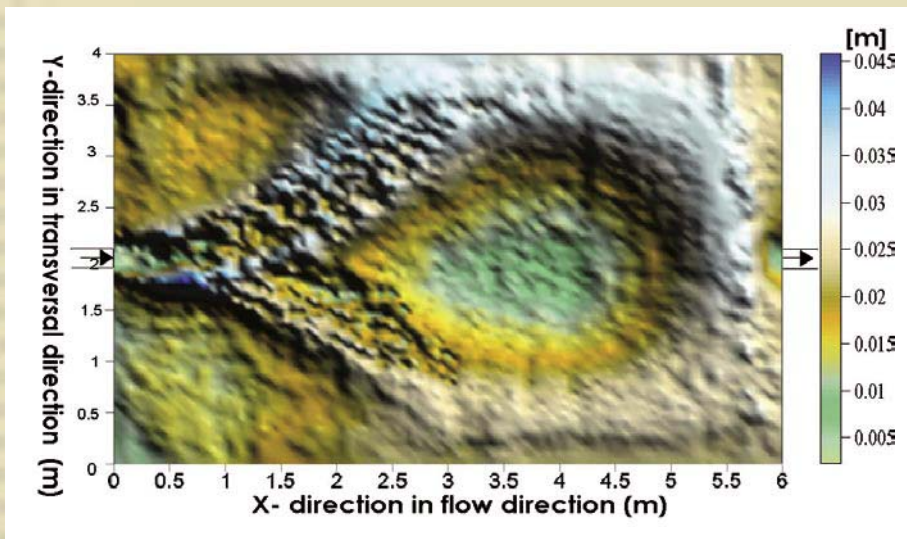
The easy to use laboratory measuring instrument **UltraLab<sup>®</sup> UWS** is distinguished by its various functions and configurations, which enables its use for a wide range measuring tasks.

The measured distance is directly shown on a four digit display



According analogue voltage value is sent out through a BNC socket at the front of the equipment. The measured range, as well as the output voltage, can be adapted to the requirements of the overall measuring system.

Due to useful adjustable measuring parameters, an optimal adaptation to the measuring task is possible. This specification makes the **UltraLab<sup>®</sup> UWS** an universal tool.



**Picture left:**

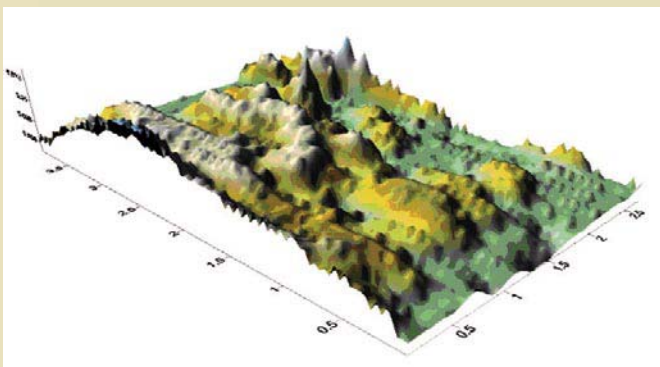
3D-result with UltraLab UWS and X-Y traverse

(by courtesy of EPFL, Lausanne, Switzerland, Mr. S.A. Kantoush)

Specifications	Lab device <b>ULTRALAB UWS 1M</b> with control keys and LCD-Display
Display:	12 mm 4 digit LCD-display integrated into equipment
Dimensions:	330/115/260 mm (length/high/depth)
Measuring rate:	Max. 10 Hz
Measuring range:	Manually adjustable, 2 cm to 15 m in water (depending on attenuation of fluid and sound velocity) maximal time span: 32 ms (equal to 23 m in water)
Power supply:	230 V AC (110 V AC / 24 V DC optional)

Sensor	Watertight, <b>IP68</b> with underwater connector and 10 m sensor cable
Dimensions:	Diameter:30 mm, Length:50 mm
Weight:	50 g
Thread:	M30 x 1.5
Frequency:	1 MHz
Resolution:	1 % of measuring range, max. 1 mm e.g. at measuring range 1 mm to 9.999 m
Accuracy:	1 % of measured value at constant ambient conditions (max. +/- 1 mm)
Temperature range:	Working temperature: -20 up to +70°C Storage temperature: -40 up to +80°C
Output:	BNC-Socket, 0-10 V analogue with zoom-function

Parameters	
Parameter setting:	Digital on display via 3 operating keys(code-secured access)
Some important parameters:	Time gain Transmit/receive amplification Measuring range



Picture above:

3D-result with UltraLab UWS and X-Y-Z traverse. Different shape factors with different forms for reservoir sedimentation study have been carried out.

(by courtesy of LCH, EPFL, Switzerland, Dr. Sameh Kantoush, e-mail: kantoush@yahoo.com)

### Key References:



### Representative of General Acoustics:



### Sea and Land Technologies Pte Ltd

65 Tuas Avenue 1, Singapore 639508  
Tel: +(65) 6518 0777 Fax: +(65) 6563 0366  
enquiry@sea-landtech.com.sg  
http://www.sea-landtech.com.sg

### General Acoustics GmbH

Am Kiel-Kanal 1  
24106 Kiel / Germany  
Phone: +49 431 5 80 81 80  
info@GeneralAcoustics.com  
www.GeneralAcoustics.com