

UltraLab ULS Advanced Field

- High End • Wave Measurement • Ruggedized



The **UltraLab ULS Advanced Field** is designed for reliable and high resolution wave measurements like wave field - or ship induced wave measurements onboard ships, (moving) platforms or fixed constructions. The system is the mobile version of General Acoustics' high performance airborne ultrasonic distance measuring technology for towing tanks and hydraulic labs. It is ruggedized for field applications and features automatic sound velocity correction and advanced signal processing for reliable and effective measurements. The operation is total calibration free for plug and play application in the field.

Up to 12 narrow beam sensors can be connected on 4 fully synchronized channels. This allows an optimal set up and adaptation to almost all kinds of waves. Measurements of steep and very fast waves, even in small grids, close to constructions or ship hulls are possible.

Due to its properties, **UltraLab ULS Advanced Field** provides a superior data set for high quality wave parameter estimations.

The system is designed for unattended operation and stores months of data on the internal SDHC-card data logger if needed.

Additionally, LAN, RS232 and trigger interfaces assure the connectivity to external measurement systems. The direct readable ASCII output format can be easily imported to any processing tool.

These properties, in combination with its mobility, make the **UltraLab ULS Advanced Field** a versatile tool for a wide range of applications.

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Specifications:

- Number of sensors: up to 12 pc. USS 60 HF over 4 channels
- Measurement range: 6/8/10 m (@1/2/3 sensors per channel)
- Blind zone: 0.5 m
- Resolution/Accuracy: 0.36 mm / 0.15% of measuring range
- Measuring rate: 20 Hz @ 6 m measuring range
10 Hz @ 8/10 m measuring range
- Data logger: SD/SDHC-card up to 8 Gbyte
- Power supply: 24 VDC (9-36VDC optional)
- Mobility/weight: Easy to carry and compact, approx. 12kg (controller, 1 sensor, REF-sensor cables)

Interfaces:

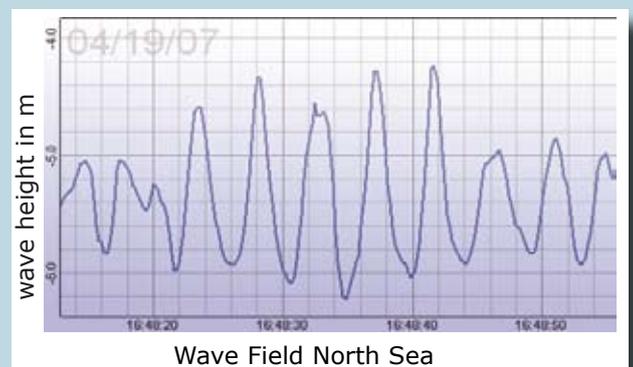
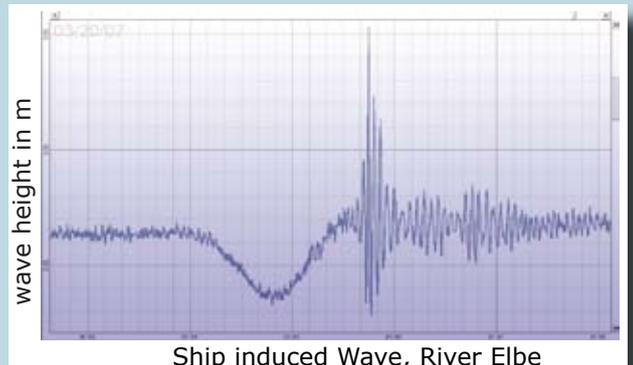
- Direct readable ASCII data format (trigger stamped, CSV format)
- RS232 (115 kBaud)
- LAN/Ethernet (Virtual COM-Port server streams data to any LAN-PC)
- Trigger input for ext. sync (TTL, opto-isolated)

The **UltraLab ULS Advanced Field System** consists of:

- up to 12 UltraLab USS 60HF sensors (up to 3 sensors per channel)
- 1 Controller unit with 4 fully synchronized but independent channels
- 1 Sensor REF-300 for precise sound velocity measurement
- Sensor connection cables
- Windows Software for real-time visualization, data logging, remote control and data export as well as a viewer tool for logged data

Applications:

- Versatile measurement of all kind of waves and highly dynamic level changes
- High resolution wave measurements
- High resolution measurements outdoors e.g. in large canals or offshore basins
- Fast analysis of waves/ wave fields
- Wave parameter estimation
- Measurement from ships, constructions or in large scale models
- Hydrological and environmental monitoring
- Storm tide, flood, tsunami detection
- Ship induced waves measurement
- Harbor management
- Hydrographic survey support
- Torrent monitoring
- Load determination for hydraulic engineering
- Temporary deployment
- Wake Wave pattern of ships and ship models



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