

An underwater photograph showing a hydrophone (a cylindrical metal device with a blue and yellow handle) positioned in the water. The background features a rocky seabed with green algae, several fish, and dark seaweed fronds in the upper left corner. The right side of the image is a solid blue gradient containing text and a logo.

408ULS

SHALLOW WATER OPERATIONS

The 400 Series Technology
extended down to 50 m water depth.



Ahead of the CurveSM

408ULS

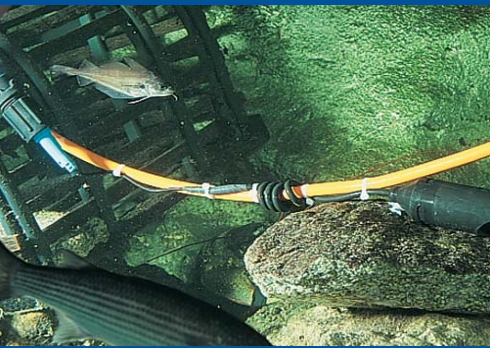


Based on the 408UL electronics and software architecture, the 408ULS incorporates all the mechanical characteristics that make this system suitable for shallow water and transition zone seismic operations down to a depth of 50 meters of water. The 408ULS benefits from the high level of reliability of the 408UL technology and the in-water mechanical experience of Sercel's SU1-ULS system.

It offers two key benefits crucial for this kind of operations. Very few other systems have successfully integrated the ruggedness and ease of handling for safe and efficient deployment and retrieval operations in these environments.

Made for operations in difficult environments

The 408ULS has been designed to meet the constraints of shallow water or transition zone operations. It must be rugged enough to withstand the mechanical stresses induced by the effects of the currents and tides, as well as the stress and strain related to the deployment and retrieval of the system. This is why the system has been developed with an inline two channel unit, integrated into the cable with an internal Kevlar stress member that has a breaking strength of 800 daN.



Made for safe hand deployment

With cables weighting only 0.215 kg (0.475 lbs) per meter and fully integrated electronics (FDU2S; two-channel digitizing units weighing only 1.7 kg or 3.8 lbs), the 408ULS is light enough to be carried by small boats that can easily cover all areas from 0 to 50 m of water and be safely handled by the crew members. It also benefits from a down-the-cable, low voltage power management architecture that requires only 1 standard 12 V battery every 60 traces (connected to a dedicated field unit called LAULS).



Made for efficient use in obstructed areas

The 408ULS has all of its components in the field deployed on the seabed. The system can be deployed from small maneuverable vessels, which makes deployment and retrieval in highly congested areas easier.

Deployed on the seabed, single or dual sensor acquisition is less susceptible to surface noise conditions.

Made for seamless acquisition from land to shallow waters

Totally integrated to the 400 Series family, the 408ULS has the same Central Unit (408UL CMXL or 428XL LCI-428) and its field equipment can be connected to the land equipment (LINK). The 408ULS extends the acquisition spread into transition zones down to 50 meters with all the same benefits (real-time QC, high channel count, networking) of working with the 408UL or 428XL on land.

SPECIFICATIONS

FIELD EQUIPMENT

FDU2S - 2 CH DIGITIZING UNIT

| | |
|---|---|
| General specifications same as 408UL FDU, except: | |
| Interval between FDU2S's | up to 110 m |
| Performances | same as 408UL FDU |
| Physical | |
| Material | Aluminium |
| Dimensions & Weight | |
| Size | 233x95x95 mm (9.2x3.7x3.7 in) |
| Weight | 1.7 kg (3.8 lbs) in air 0.7 kg (1.6 lbs) in seawater |
| Power | |
| Operating power voltage | 27 to 50 V DC |
| Power consumption | 250 mW |
| Environmental | |
| Operating temperatures | - 40 to +70 °C |
| Storage temperatures | - 40 to + 70 °C |
| Water depth | 50 m |

LAULS - (FDU2S AND LINE MANAGEMENT UNIT)

| | |
|--|---|
| General specifications | same as 408UL LAUL |
| Performances | |
| Maximum number of FDU2S's between LAUL's | 30 |
| Physical | |
| Material | Aluminium |
| Dimensions & Weight | |
| Size | 325x150x94 mm (12.8x5.9x3.7 in) |
| Weight | 2.9 kg (6.4 lbs) in air 0.3 kg (0.7 lbs) in seawater |
| Power | |
| Operating power voltage | 10.5 to 15 V DC |
| Power consumption | 3.4 W (idle: 420 mW) |
| Environmental | |
| Operating temperatures | - 40 to +70 °C |
| Storage temperatures | - 40 to +70 °C |
| Water depth | 50 m |

LAUXS (LINE AND TRANSVERSE MANAGEMENT UNIT)

GENERAL

| | |
|------------------------|---|
| Functions | data transmission and routing (transverse) with error recovery and temporary storage 48 V line power generation |
| Tests capabilities | Tests Power supply Data transmission Field tests (resistance, tilt, leakage, noise, CMRR) Instrument tests (noise, distortion, phase, gain, CMRR) |
| Memory | 4 Mb local buffer for non-real time mode transmission |
| Interval between LAUXS | 550 m |

PHYSICAL

| | |
|-------------------------|---|
| Material | Aluminium |
| Dimensions and Weights | |
| Size | 312x242x137 mm (12.3x9.5x5.4 in) |
| Weights | 5.500 Kg (12.1 lbs) |
| Power | |
| Operating Power Voltage | 10.5 to 15 VDC, 2 battery connectors, to allow uninterrupted operation during battery replacement |
| Power Consumption | 5.7 W (idle : 320 mW) |
| Environmental | |
| Operating Temperatures | -40° to +70 °C |
| Storage Temperatures | -40° to +70 °C |
| Water Depth | 50 m |

CABLES

| | |
|----------------------------|------------------|
| Double jacket | yes |
| Jackets thickness | 2,2 mm |
| Stress member | central kevlar |
| Breaking strength | 800 daN (bulked) |
| 500 daN (with stress-eyes) | |
| Operating temperatures | - 15 to +70 °C |
| Storage temperatures | - 15 to +70 °C |

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Printed in France. © Sercel 04/08

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