



NEXT GENERATION WIDE SWATH BATHYMETRY AND SIDE SCAN

GeoSwath 4 offers the industry's most efficient simultaneous swath bathymetry and side scan seabed mapping system for shallow waters. Bathymetry data accuracies have been shown to exceed the IHO Special Order 1a Standard for Hydrographic Surveys, while providing seafloor coverage of up to 12 times the water depth and data from nadir to the waterline. The side scan data can be calibrated for repeatable results to provide seabed classification and monitoring. The new hardware provides twice the data density and increased nadir performance compared to its predecessors in a new rugged portable design. The specifically developed GS4 acquisition and processing software included with the system delivers automatically cleaned data in real time. The splash protected deck unit is designed to be deployed on small vessels, RIBs and jet skis equipped with a 24 V power supply.

System Components

The GeoSwath 4R turn-key solution comprises a compact dual transducer head and a splash protected deck unit containing the complete sonar electronics, which can be interfaced via an Ethernet connection to the control laptop PC running the new GS4 software.

Deck Unit

The compact splash protected housing contains the complete system electronics. All peripheral sensors (position, motion, heading, transducer face sound velocity, sound velocity profiler and tide) are interfaced directly via IP66 rated connections. The system has been newly designed for increased performance. It offers twice the data density compared to its previous versions and increased nadir performance. All peripheral sensors (position, motion, heading, transducer face sound velocity, sound velocity profiler and tide) are interfaced directly.

Dual Sonar Head

The transducers are available in a choice of three frequencies: 125, 250, 500 kHz, varying in depth performance and data resolution depending on the survey task. A wide range of motion reference units (MRU) and sound velocity sensors (SVS) can be mounted on the compact head. This has been designed for easy deployment on a pole for over-the side or bow-mount options.

GS4 Software

The GS4 software has been specifically designed for the new GeoSwath 4. It is included with the system and provides a complete project based solution; acquisition, storing and editing of sonar and ancillary data, grid-based patch test calibration, data processing, advanced bathymetry data gridding, side scan mosaicing and 3D data visualisation. Newly developed filter algorithms provide real time processed data with minimum user intervention even in difficult survey situations involving vertical structures, shipwrecks and steep seabed slopes

FEATURES

- Ultra high-resolution wide swath bathymetry with increased data density
- IHO SP-44, special order 1a
- Up to 12 times water depth seabed coverage
- 240° field of view - up to the water line
- Twice the data density compared to previous versions and best nadir resolution ever
- Co-registered geo-referenced side scan
- Ability to collect calibrated side scan for analysis with 3rd party software
- Repeatable results for seabed classification and monitoring
- New GS4 software - included with the system
- Automated filter algorithm
- Real time results
- Frequency versions: 125, 250, 500 kHz
- 24V DC power supply

OPTIONS

- AUV, ROV and USV versions
- GeoSwath 4R - Rugged version
- Range of mounting options including underwater housing for peripheral sensors
- Range of peripheral sensors
- Special rates on third party software

TECHNICAL SPECIFICATIONS

| GeoSwath 4 | 125 kHz | 250 kHz | 500 kHz |
|--|---|--------------------|-------------------|
| max Water Depth Below Transducers | 200 m | 100 m | 50 m |
| max Swath Width | 780 m | 390 m | 190 m |
| max Coverage | up to 12 x depth | | |
| Depth Resolution | 6 mm | 3 mm | 1.5 mm |
| Two Way Beam Width (Horizontal) | 0.85° | 0.75° | 0.5° |
| max Swath Update Rate | 30 per second (simultaneous port and starboard) | | |
| Transducer Head Dimensions | 550 x 250 x 190 mm | 470 x 165 x 125 mm | 330 x 109 x 75 mm |
| Transducer Head Weight, including peripherals, approx. | 35 kg | 20 kg | 14 kg |

| GeoSwath 4R Deck Unit | |
|-----------------------|---|
| Dimensions | Height: 136 mm, Width: 400 mm, Depth: 342 mm |
| Weight | 11.5 kg |
| Power | 24V DC, 55W peak power |
| Environment | Operation 0°C to 40°C, Storage -20° to 70°C, Ingress protection: IP50 front, IP20 back Humidity: operation 95% non-condensing, storage < 55% |
| Control Interface | Laptop via Ethernet or Touch Screen Control (optional) |
| Laptop | Panasonic Toughbook 55, 14" 8 th gen. Intel Cor i5 8 GB DDR4-SDRAM 1 TB SSD Windows 10 Pro |

Specifications subject to change without notice. E&OE