

GEOSWATH 4R



KONGSBERG



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NEXT GENERATION PORTABLE WIDE SWATH BATHYMETRY AND SIDE SCAN

GeoSwath 4R offers the industry's most efficient simultaneous swath bathymetry and side scan seabed mapping system for shallow water. Bathymetry data accuracies have been shown to exceed the IHO Standards 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 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 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.

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 supplied pole for over-the side or bow-mount options.

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.

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
 - 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
 - Calibrated side scan with GeoTexture software
 - Repeatable results for seabed classification and monitoring
- New GS4 software operated from laptop included with the system
 - Automated filter algorithm
 - Real time results
- Frequency versions: 125, 250, 500 kHz
- 24VDC power supply, 40W

OPTIONS

- Touch screen control
- AUV, ROV and USV versions
- GeoTexture Side Scan calibration and seafloor classification software
- 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 depths		
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	661 x 411 x 325 mm	360 x 352 x 150 mm	330 x 109 x 75 mm
Transducer Head Weight, appr. including peripherals	44 kg	20 kg	16.8 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: IP66 Humidity: operation 95% non-condensating, storage < 55%
Control Interface	Laptop via Ethernet or Touch Screen Control (optional)
Laptop	Model: Panasonic Toughbook (Semi-rugged): CF-53SAWZYBE Chipset: Mobile Intel 7 QM77 Express Chipset Processor: Intel Core i5-3340M - 2.7GHz Video Controller: Intel HD Graphics 4000 Memory: 4GB, DDR3 SDRAM Hard Disk Drive: 480GB Solid State Operating System: Windows 7 64bit CD/DVD Drive: DVD Multi drive built-in Display: 14" TFT (1366 x 768 resolution) Network: 10/100/1000 BASE-T LAN Port USB: 2 x USB 3.0, 2 x USB 2.0 Other Ports: 1 x RS232, Headphone & Mic inputs Weight: Approx 2.65kg Power: AC Adapter: Input: 100V ~ 240V, 50Hz/60Hz; Output: 15.6V, 7.05A CF-LND1224A DC-DC Adapter: Input 12-32V DC Output: 15V DC, 8A

Specifications subject to change without notice.

