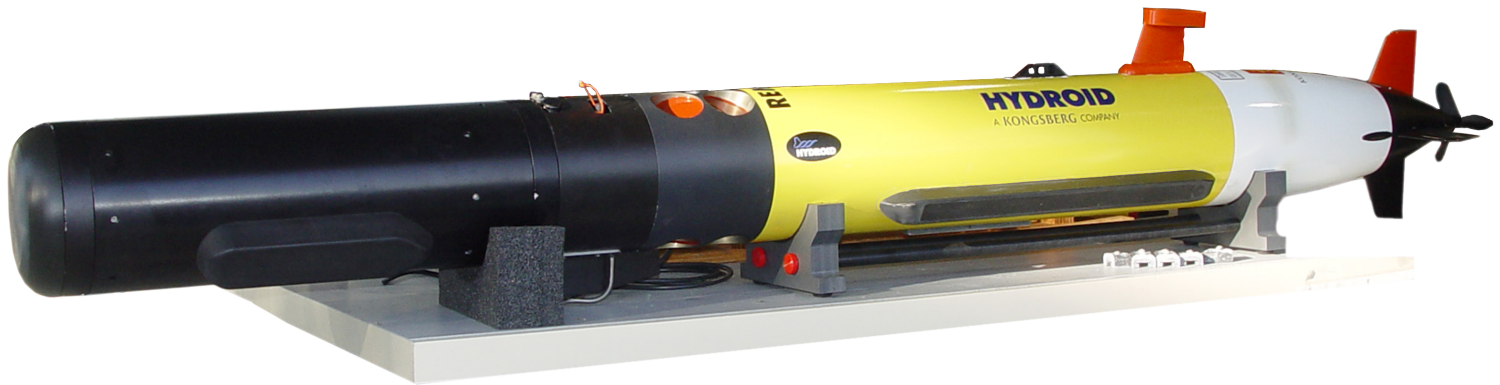


# GEOSWATH PLUS REMUS 100



KONGSBERG



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## WIDE SWATH BATHYMETRY AND SIDE SCAN FOR REMUS 100 AUV

The GeoSwath Plus REMUS 100 phase measuring bathymetric sonar offers simultaneous swath bathymetry and side scan seabed mapping from a payload module for the Hydroid REMUS 100 autonomous underwater vehicle (AUV). With a data coverage of up to 12 times the vehicle's fly height and its low power consumption it offers unsurpassed efficiency for all military and civil survey applications.

Hydroid REMUS 100 is a compact, light-weight AUV designed for operation in coastal environments up to 100 meters in depth. It is the cornerstone of the coastal AUV market, with thousands of missions, and tens of thousands of mission hours to its credit.

### System Components

The GeoSwath Plus REMUS 100 module contains the sonar electronics together with a high-spec small form factor PC, including local data storage, which can operate free running or interfaced to the AUV's control and peripheral sensors using Ethernet and Serial connections. The small size port and starboard transducers are mounted directly to the module. The included GS4 software package provides full acquisition, calibration and data processing capabilities for producing the final bathymetry map and side scan mosaic data products.

### Transducers

The newly designed rugged, light weight and streamlined port and starboard transducers are attached directly to the payload module.

### Sonar module

The compact module contains the sonar electronics as well as a high spec small form factor PC including a local hard drive for data storage. It can be manufactured to bespoke specifications. Accomplished integrations include the industry's smallest man-portable AUVs. Ancillary sensors can be interfaced to the module or the data can be merged with the sonar data using time stamping at a later stage. The clock can be synchronised using an available 1pps pulse. The module can be interfaced via an Ethernet connection to the AUV's control.

### Software

GS4 replaced the GS+ software in 2015. The newly developed package provides a complete project based solution, including acquisition, storing and editing of sonar and ancillary data, grid-based patch test calibration, data processing with audit trail, advanced bathymetry data gridding and side scan mosaicing, data visualisation including 3D fly-through capability.

## FEATURES

- Ultra high resolution swath bathymetry
- Co-registered geo-referenced side scan
- Frequency 500 kHz
- Up to 12 times fly height coverage
- Compact and light weight module
- Low power consumption (50 W full operation, 20 W standby)
- Easy interfacing using Ethernet and serial communications
- Full software solution included: data acquisition, processing, presentation
- Interfaces to all customary peripheral sensors
- Interfaces to all customary software packages

## OPTIONS

- Integration to other Hydroid vehicles
- Increased depth ratings
- 125 kHz and 250 kHz versions

## TECHNICAL SPECIFICATIONS

GeoSwath Plus REMUS 100 - 500 kHz	
max Water Depth Below Transducers	50 m
max Swath Width	190 m
max Coverage	up to 12 x depths
Depth Resolution	1.5 mm
Two Way Beam Width (Horizontal)	0.5°
Transmit Pulse Length	32 µs to 224 µs
max Swath Update Rate	30 per second (range dependant)
Transducer Dimensions	255 x 110 x 60 mm
Transducer Weight	1.5 kg (in air) 0.5 kg (in water)
Power Requirements	24 VDC, 50 W (at max ping rate), 20 W (standby).
Max Depth Rating	GeoSwath Plus module: 1000 m, REMUS 100: 100 m
Electronic Module Size	20 cm OD x 36.6 cm long.
Electronic Module Weight	12 kg (in air), 3 kg (in water).
Data Storage/Retrieval	120 GB hard drive, 10/100/1000 BaseT Ethernet link
Interface to Remus AUV	Ethernet (2 x 1 Gbit Ethernet ports available), RS232 for ancillaries

Specifications subject to change without any further notice.

