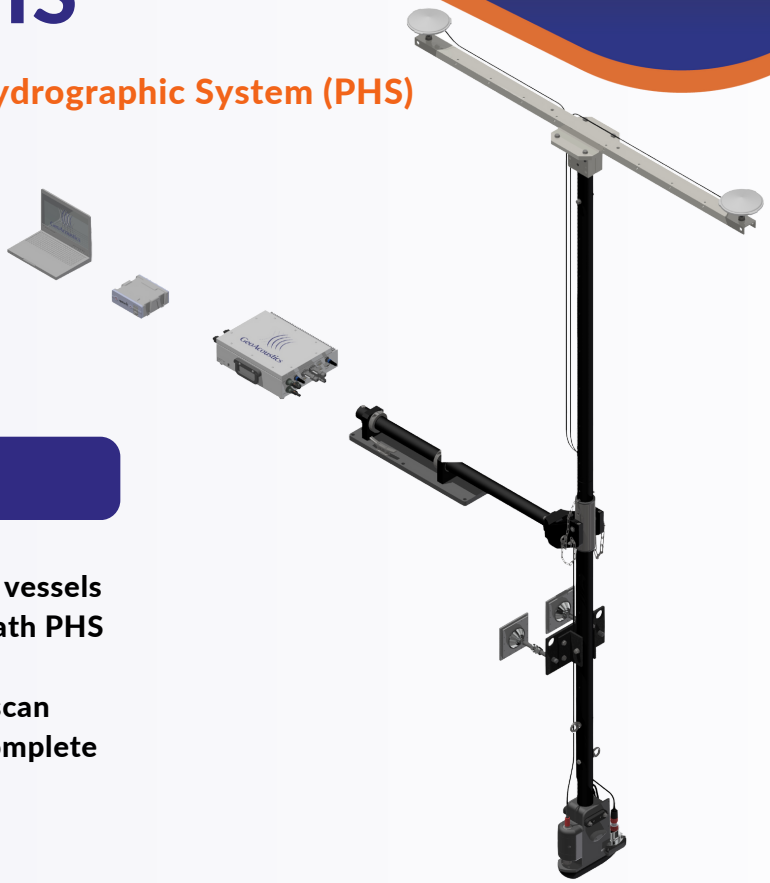
GeoSwath 4 PHS

AI-Enabled GeoSwath 4 Portable Hydrographic System (PHS)



Save time at sea and ashore with powerful real-time AI data processing, only on GeoSwath 4.

OVERVIEW

Designed for rapid deployment on diverse vessels of opportunity including RIBS, the GeoSwath PHS is the most efficient turnkey solution for simultaneous swath bathymetry and side scan seabed mapping in shallow waters. As a complete package, it includes:

GeoSwath 4R

The GeoSwath system is available in 125 kHz, 250 kHz and 500 kHz frequencies, with each frequency determining the maximum depth of operation, depth resolution and maximum swath width.

Applanix POS MV SurfMaster

This GNSS-aided inertial navigation system consists of three main components; POS Computer System (PCS), Inertial Measurement Unit (IMU) fitted to the GeoSwath transducer head and two GNSS antennas. It allows for higher immunity to GNSS outages in areas of problematic satellite reception, such as ports, harbours, rivers, near-shore coastal waters and near offshore structures, and is Supplied with 6 months subscription to POSPac Go! PP-RTX.

Valeport Sound Velocity Sensors (SVS)

The SVS is attached to the transducer head and connected directly to the GeoSwath 4R. Further, a Valeport Swift Sound Velocity Profiler (SVP) is part of the PHS system, enabling SV dips during the survey. This data is easily incorporated into the GeoSwath software package during processing.

Over the Side Mount

The GeoAcoustics OTS mount is a rugged, tried and tested design that is simple to operate and install. A sectional mounting pole is supplied allowing different freeboards to be accommodated. At the top of the pole 2 GNSS antennas are fixed with a 1.9 m baseline separation which are in turn connected to the PCS.

GS4 Software and PC

A Panasonic Toughbook supplied as part of the PHS includes a pre-configured installation of GS4, which now includes powerful hands-free AI data processing. It 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 3-D data visualisation.

GeoSwath 4 PHS Technical Specifications

GeoSwath 4 Transducer	125 kHz	250 kHz	500 kHz
Max Depth below Transducer	200 m	100 m	50 m
Max Swath Width	780 m	390 m	190 m
Max Coverage	Up to 12 x depth	Up to 12 x depth	Up to 12 x depth
Range Resolution	6 mm	3 mm	1.5 mm
Angular Resolution	0.04°	0.04°	0.04°
Two-Way Beam Width (Horizontal)	0.85°	0.75°	0.5°
Max Swath Update Rate	30 per second (simultaneous port and starboard)	30 per second (simultaneous port and starboard)	30 per second (simultaneous port and starboard)
Transducer Head Dimensions	550 mm (L) x 250 mm (W) x 190 mm (H)	468 mm (L) x 165 mm (W) x 125 mm (H)	362 mm (L) x 109 mm (W) x 75mm (H)
Approx. Transducer Head Weight, inc. peripherals	35 kg	20 kg	14 kg

GeoSwath 4R Deck Unit

Physical	Dimensions: 440 mm (D) with connectors x 342 mm (W) x 136 mm (H) | Weight: 12.5 kg
Power	18-26 VDC, 60 W peak power
Environment	0 °C to 40 °C, -20 °C to 70 °C (storage) | < 95 % RH non-condensing (operation), < 55 % RH non-condensing (storage) | IP66 rated ingress protection
Interface	Laptop via ethernet

POS MV SurfMaster

Physical	Dimensions: 167 mm (D) x 356 mm (W) x 68 mm (H) | Weight: 2.5 kg
Power	10-34 VDC, 35 W peak power
Position Acc.	DPGS 0.5-2 m | POSPac PPP Horizontal <0.1 m, Vertical <0.2 m
Heading Acc.	0.08° with 2 m baseline
Heave	5 cm or 5 %. Whichever is greater, for periods of 14 s or less

Valeport SVS / SVP

Sound Velocity Sensor (SVS)	Range 1375-1900 m/s. Resolution 0.001 m
Sound Velocity Profiler (SVP)	(Swift) Range 1375-1900 m/s. Resolution 0.001 m, Accuracy +/- 0.02 m/s | Weight: 2 kg (air), 0.9 kg (water)