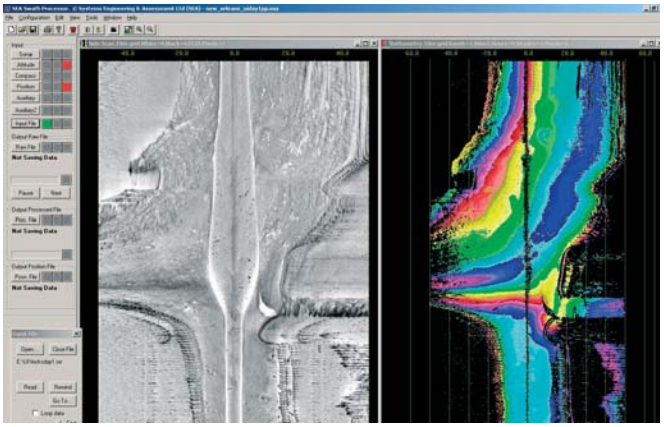
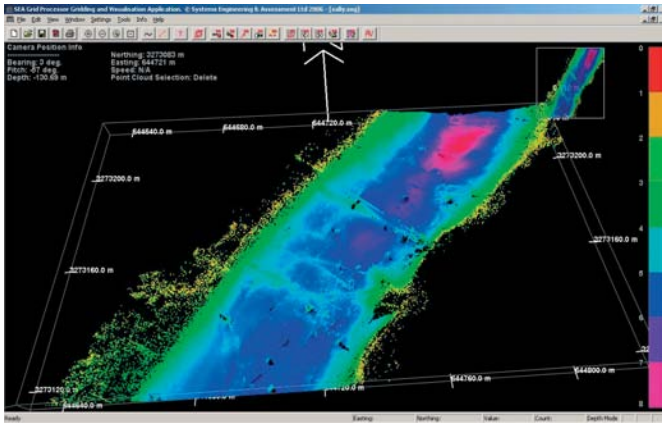
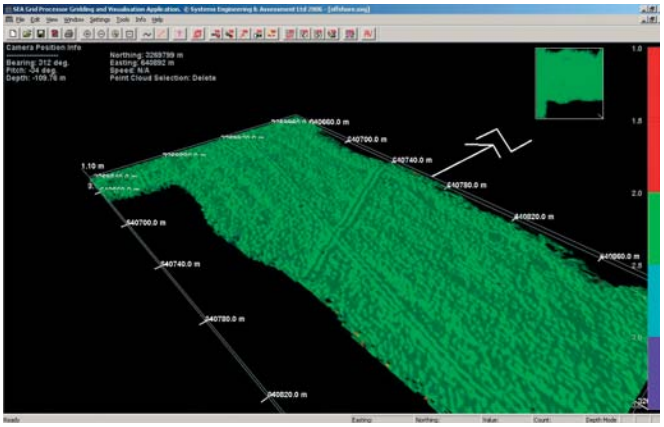
The interferometric sonar system of choice for acquiring co-registered, very wide swath, high-resolution bathymetry and seafloor imagery.

SWATH*plus*

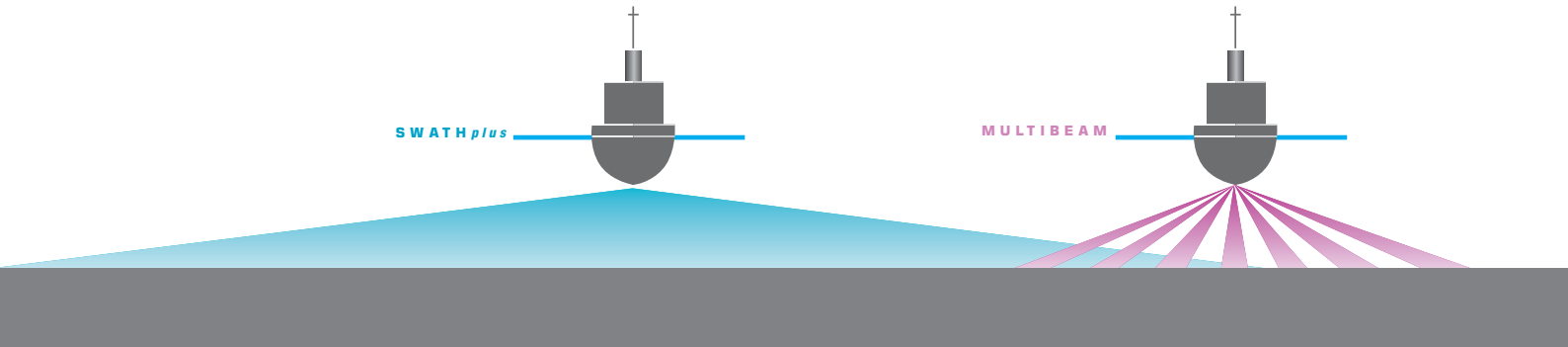






- Meets international survey data standards, such as IHO requirements.
- Co-registered, high-quality bathymetry and seafloor imagery over a very wide swath width in shallow water or at low altitude:

  USGS: "Operating swath of the bathymetric system ranged from 15 to 20 times water depth in depths less than 15 m."
- High data count gives high spatial resolution up to the swath edge.
- Low cost of ownership compared with most beam-forming multibeam systems.
- Simultaneous pinging doubles productivity and along-track coverage over alternate pinging systems – reduced in-field survey and data turn-around efforts.
- Data exportable to industry-standard applications, such as CARIS and QINSy.
- Lightweight, compact, robust and highly portable facilitating simple and rapid deployment.
- Does not require rack mounting; low power requirements – less than 25 W.



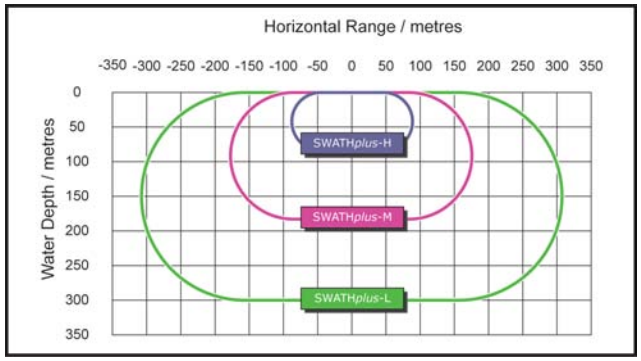
No two hydrographic surveys are the same. But all surveys have the same goals – effective performance, rapid and accurate data acquisition and processing, and reliable outputs.

SWATH*plus*

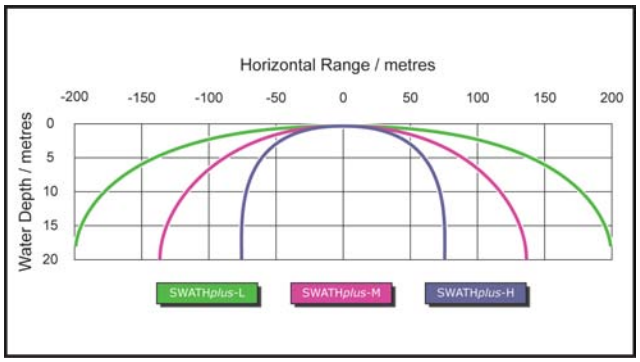
- Three frequency variants are offered – SWATH*plus*-L, SWATH*plus*-M and SWATH*plus*-H; offered in a standard or splash-proof configuration.
- The 468 kHz system is available for ROV/AUV/ASV deployment.
- System comprises two transducers, a Transducer Interface Unit, universal mounting kit and a laptop with data acquisition (swath processor) and data processing (grid processor) software.
- Interfaces to third party, industry-standard acquisition and processing software systems such as QINSy, CARIS, Hypack, Fledermaus, Starfix and PDS2000.
- Features double-sided pinging; and USB interfacing.
- Users/Applications: Research/education (habitat mapping). Survey companies (navigable depth, route/site surveys, construction/dredging support, pipeline inspections). Utility companies (cable and pipeline surveys/ inspections). Civil engineering (infrastructural surveys).

Technical Specifications

Parameter	SWATH*plus*-L	SWATH*plus*-M	SWATH*plus*-H
Sonar frequency	117 kHz	234 kHz	468 kHz
Maximum Water Depth	350 m	200 m	80 m
Recommended Maximum Working Depth	300 m	100 m	50 m
Across-track resolution	5 cm	2 cm	1 cm
Azimuth Beam Width (2-way)	0.85°	0.55°	0.55°
Transmit Pulse Length	17 µs to 1 ms	8.5 µs to 500 µs	4.3 µs to 250 µs
Transducer dimensions	235 x 550 x 90 mm	160 x 350 x 60 mm	100 x 215 x 42 mm
Transducer Weight in Air	13 kg	6 kg	1 kg
Transducer Weight in Water	1.6 kg	0.9 kg	0.1 kg
Total Cable Length	20 m	20 m	15 m
Transducer Interface Unit Dimensions		125 x 294 x 285 mm	
Transducer Interface Unit Weight		6.4 kg	



Horizontal ranges for the three sonar versions, against water depth
The swath width, and so the distance between survey lines, is double the horizontal range shown



Horizontal Range vs. Water Depth, first 20 metres depth
SWATH*plus* provides outstanding coverage in very shallow water

Note: parameters are for guidance and may vary according to survey conditions such as ambient noise level and seabed type

Systems Engineering & Assessment Ltd
SEA House, Building 450, Bristol Business Park, Coldharbour Lane, Bristol, UK, BS16 1EJ
Telephone: +44 (0) 1373 852000; Fax: +44 (0) 117 937 5088; www.sea.co.uk

S·E·A