

Bathyswath-3 SIGMA (B3S)

The innovative Bathyswath-3 technology embedded in SIGMA subsea unit

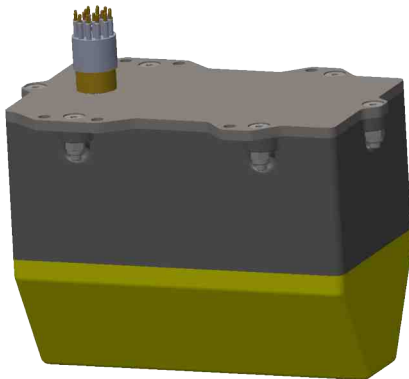
WIDE SWATH BATHYMETRY

Performance & Quality

Bathyswath-3 SIGMA (B3S) gives significant performance & good data quality.

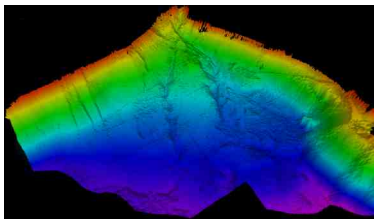
- Wideband (chirp) sonar technology,
- 3 sonar frequencies simultaneously,
- Bathymetry and sidescan data,
- Very small system : 218 (l) x 128 (w) x 202 (h) mm

- Bathyswath-3 provides more data under the boat and better data quality at the swath edge than previous Bathyswath-2 version,
- Low-power consumption,
- With its 3 frequencies Chirp Technology in a complete integrated system, Bathyswath-3 gives you great signal processing, more flexibility.



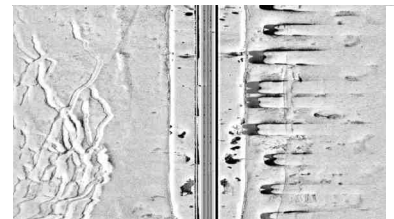
Integrated pod transducer

- 450, 900 and 1800 kHz acoustic staves.
- 1800 kHz dedicated to high resolution sidescan data.

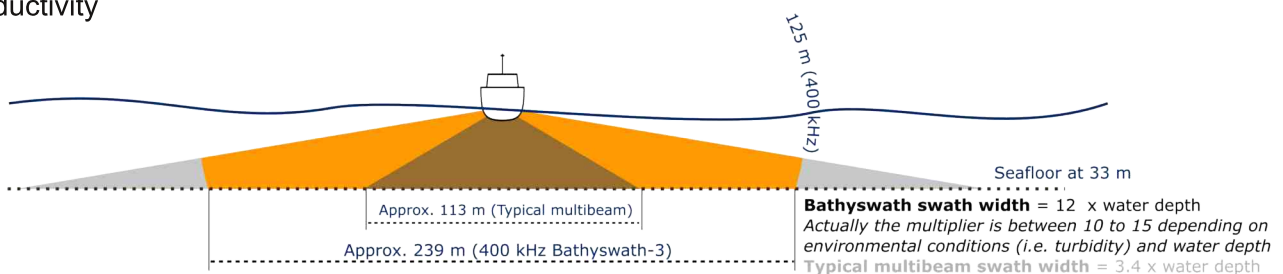


Software, 3D bathymetry & sidescan data

- Included in package price,
- Fully-functional survey software (for sonar, position, sound velocity and motion data acquisition) and post-processing software (for 3D rendering and digital terrain models),
- Bathyswath sonar is also compatible with most usual commercial software packages.



Productivity



SUBSEA UNIT CONFIGURATION

TEM

Transducer Electronic Module

Connector

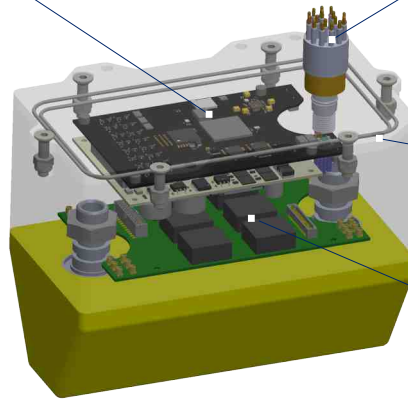
Double o-ring

Housing

Double O-ring, titanium

TCB

Transducer Communication Board



TECHNICAL SPECIFICATIONS

Sonar specifications

Simultaneous frequencies	450 kHz	900 kHz	1800 kHz
Operational slant range (m)	135	70	35
Maximum slant range (m)*	200	100	50
Horizontal beam width, two-way*	0.25°	0.25°	0.25°
Spatial resolution limit (mm)	1.6	1	0.5
Subsea unit dimensions (mm)	218 x 128 x 202		
Subsea unit weight (kg)	3.3 in air, 0.2 in water		
Pressure depth rating (m)	10		

* Refer to our Bathyswath technical information document (pdf) available on www.iter-systems.com

Optional devices (With NAVBOX optional unit)

GNSS :	<ul style="list-style-type: none"> Hemisphere Vega 40 GNSS Compass board. Trimble BD992 Dual Antenna, positioning and heading. Trimble BD992-INS. 	<p>GPS, GLN, GAL, QZSS, BDS, L-Band (Atlas), IRNSS, heading (0.04° @ 2m baseline), L1/L2, RTK 1cm, rover, 20 Hz (opt.), 0.5° pitch & roll.</p> <p>GPS, GLN, GAL, BDS, L-Band (RTX or OMNISTAR), heading (0.09° @ 2m baseline), L1/L2/L5/E6, RTK 1cm, rover, 50 Hz.</p> <p>GPS, GLN, GAL, BDS, L-Band (RTX/OMNISTAR), heading (0.09° @ 2m baseline), L1/L2/L5/E6, RTK 1cm, rover, 100Hz, 0.1° pitch & roll.</p>
INS/IMU :	<ul style="list-style-type: none"> Trimble embedded INS (BD992-INS) Ellipse-E INS Navsight Ekinox-I-B INS 	<p>0.1° pitch & roll</p> <p>0.1° pitch & roll (0.05° RTK), 1° heading (compass), 5 cm R/T heave.</p> <p>0.02° pitch & roll, 0.05° heading (w/ GNSS), 5 cm real-time heave.</p>
Computer :	<ul style="list-style-type: none"> Raspberry Pi CM3+ (not optional) 	<p>32 Gb eMMC, 1Gb SDRAM (+32Gb SD card), Cortex A53 (ARM) 64-bits.</p>

Other package options

Bathyswath-3 is available in two other package options

- Bathyswath-3 ALPHA (B3A) : All-In-One integrated system with ancillary devices in the same housing such as GNSS receiver, Sound Velocity Sensor, IMU or INS.
- Bathyswath-3 OEM: sonar electronics and transducers as parts for integration inside clients' systems or vehicles (i.e. AUVs, USVs, etc.).

"The quality of the data collected during the trial was high both in terms of coverage and resolution."

- Neil Crossouard - HR Wallingford survey specialist

FROM A TO Z



Sonar systems engineering.



Training on client's site or on lake in front of our premises.



Software development for our own products or for new interfaces with customers systems.

Remote technical support.

A WIDE RANGE OF APPLICATIONS



Marine services



Research



Environment



Natural resources



Archeology



Military REA

Bathyswath a brand of the company ITER Systems

ITER Systems is one of the world's most experienced team of developers of interferometric sonars. Its products are direct descendants of the world's first commercially available interferometric swath sonar system, developed into SWATHplus, which renamed Bathyswath in 2013. Bathyswath-2 was released in 2015, and Bathyswath-3 in early 2022 will give yet another significant advance in performance and usability.

ITER Systems provides innovation, quality product at an affordable price, for the international market with high quality technical support. A team of specialized engineers are located in France and in England to answer all your needs.

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