BATHYSWATH

ITER SYSTEMS

FPGA and PA boards assembly
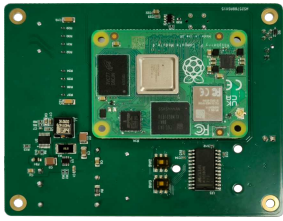*(main boards of the OEM package)*

POD transducer covering both port & starboard sides
(fitted with two penetrators, each with 2 o-rings)

Bathyswath-3 OEM package
(B3S-OEM)

The innovative Bathyswath-3 technology for USV, ROV or AUV applications
(efficient, small and low power consumption)

A SET OF 4 ELECTRONIC BOARDS

PAC board (optional)
(Power & Communications board)

It is equipped with an embedded Raspberry Pi CM 4 that can be used for autonomous operations. It has a DC/DC power convertor and is also fitted with a 4-port Ethernet switch (i.e. link to INS, GNSS, etc.) and a USB-C connnector (i.e. extended storage options).
- *Fixing screws are supplied*
- *100x80x20 mm, 80 g*
- *Ref. 40080-0019-PAC*
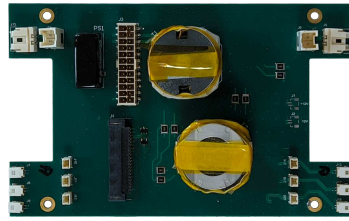
TCB board
(Transducer Connection Board)

It transmits the Rx signals from the transducer to the FPGA board and the Tx signals from the PA board to the transducer; It is fitted with transformers that are specific to each pod transducer for ensuring optimal performances.
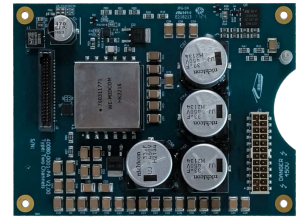- *Fixing screws are supplied*
- *135x85x25 mm, 200 g*
- *Ref. 40080-0004-TCB-B3S/4CH*
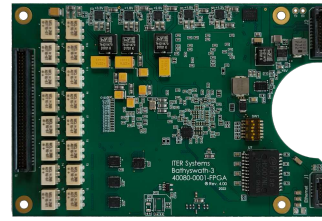
FPGA board
(FPGA processor board)

It generates, collects and processes the signals. It is fiited with an embedded PFGA processor.

- *Fixed underneath the PA board with with 4 male/male spacers,*
- *130x85x38 mm, 150 g (spacers + PA board + FPGA board)*
- *Ref. 40080-0001-FPGA*

PA board
(Power Amplifier board)

It amplifies the signal generated by the FPGA board before transmitting it to the transducer through the TCB board.

- *Fixed on top of the FPGA board with 4 male/male spacers.*
- *130x85x38 mm, 150 g (spacers+PA board+FPGA board)*
- *Ref. 40080-0002-PA/4CH*

A SET OF CABLES

PA board to TCB board Tx cable[2]
Ref. ASSY-CABLE-1031-LL

TCB board to FPGA board Rx cable[2]
Ref. ASSY-CABLE-1032-LL

PAC board Ethernet cable[2, 3]
Ref. ASSY-CABLE-1035-OPEN-LL

PAC board power cable[2, 3]
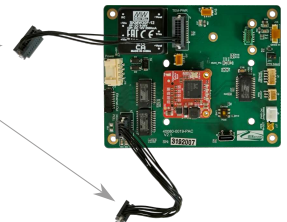*Ref. ASSY-CABLE-1036-OPEN-LL*

FPGA board Ethernet cable[1, 2]
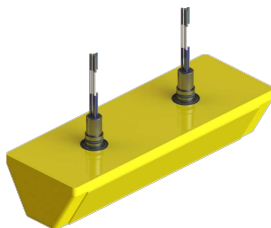*Ref. ASSY-CABLE-1034-OPEN-LL*

FPGA board power cable[1, 2]
ref. ASSY-CABLE-1033-OPEN-LL

PAC board to FPGA board power cable and Ethernet cable[2, 3]
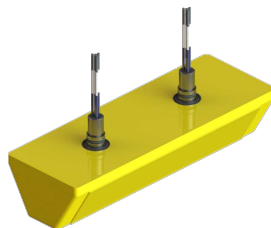*Ref. ASSY-CABLE-1033-PAC-LL & ASSY-CABLE-1034-PAC-LL*

(1) To be used if the optional PAC board is not ordered - (2) Adjustable length, "-LL" is the lentgh in cm - (3) To be used if the optional PAC board is ordered

A CHOICE BETWEEN 4 POD TRANSDUCERS

250 kHz
- *Single frequency*
- *2.0 kg, 31.6x11x6.8cm*
- *1000m depth rated*
- *Permanent stock (Jan. 25)*

250 - 850 kHz
- *Dual frequency*
- *2.1 kg, 31.6x11x6.8cm*
- *2000m depth rated*
- *Permanent stock (Feb. 25)*

450 kHz
- *Single frequency*
- *1.3kg, 20x11x5cm*
- *1000m depth rated*
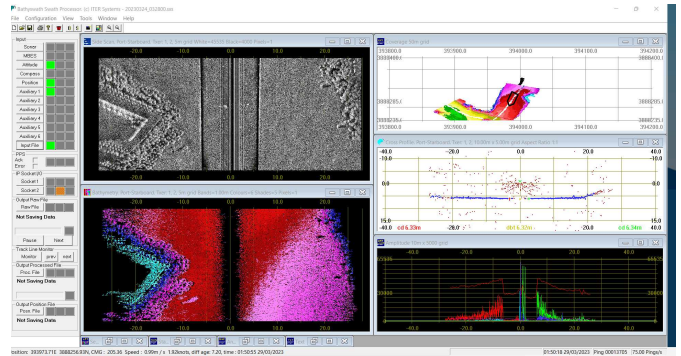- *Permanent stock*

450 - 1200 kHz
- *Dual frequency*
- *1.5 kg, 20x11x7cm*
- *1000m depth rated*
- *On demand only*
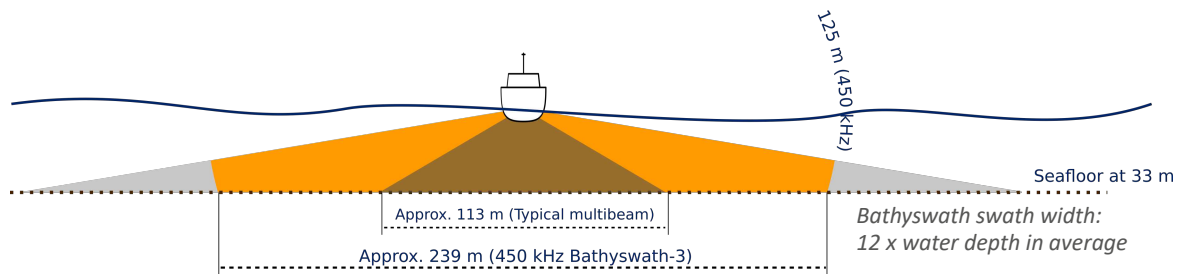
SOFTWARE INCLUDED IN THE PACKAGE

Software, 3D bathymetry & sidescan data

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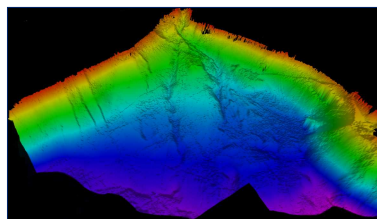- Bathyswath sonar is also compatible with most usual commercial software packages.
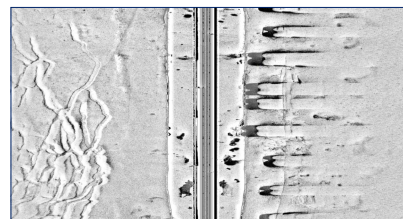
TECHNICAL SPECIFICATIONS & PERFORMANCES

125 m (450 kHz)

Seafloor at 33 m

Approx. 113 m (Typical multibeam)

Approx. 239 m (450 kHz Bathyswath-3)

Bathyswath swath width: 12 x water depth in average

	Single frequency	Single frequency	Dual frequency	Dual frequency
Frequencies	**250 kHz**	**450 kHz**	**250-850 kHz**	**450-1200 kHz**
Operational slant range (m)	> 200	> 125	>200 (250 kHz) > 70 (850 kHz)	>125 (450 kHz)> 20 (1200 kHz)
Horizontal beam width (two-way)	0.55°	0.55°	0.55°	0.55°
Spatial resolution limit (mm)	2.9	1.5	1.0 @ 850 kHz	0.7 @ 1200 kHz

- Wideband (chirp) sonar technology
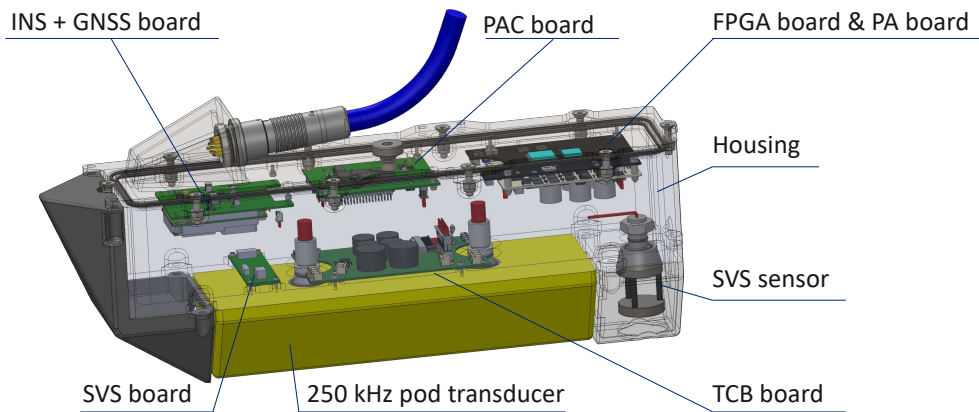- Low power consumption : **< 20 watts**

2 TYPES OF DATA

3D Bathymetric data (xyz)

Sidescan images

EXAMPLE OF ASSEMBLY INSIDE B3S-B HOUSING

INS + GNSS board

PAC board

FPGA board & PA board

Housing

SVS sensor

TCB board

SVS board

250 kHz pod transducer

B3S-B "all-in-one" system

FROM A TO Z

Sonar systems engineering.

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

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

Remote technical support.

MOST OF OUR CUSTOMERS ARE

Marine services

Research

Natural resources

Archeology

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.
ITER Systems provides innovation and quality products at an affordable price.

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ITER SYSTEMS

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