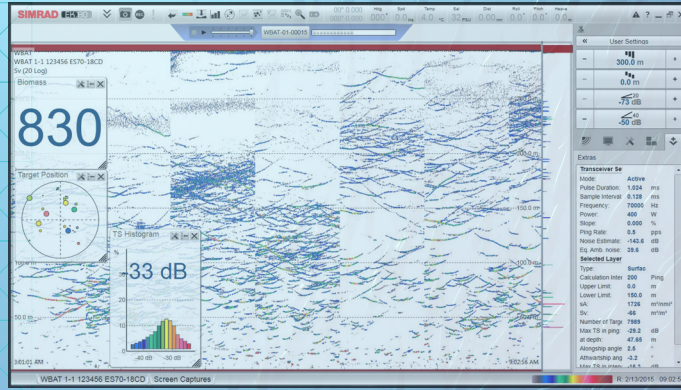


WBAT



KONGSBERG



Simrad WBAT WIDEBAND AUTONOMOUS TRANSCEIVER

KEY FEATURES

- Autonomous all-in-one echo sounder
- Advanced mission control
- Internal battery and data storage
- More than 1 year deployment
- Depth rating: There is a 1500 m version and a 6000 m version .
- Frequencies 30-500 kHz
- Connects two split-beam or four single-beam transducers
- Continuous Wave (CW) and LFM (Linear Frequency Modulation) pulse forms
- Standardized Simrad EK80 raw data format
- Wide range of transducers available

APPLICATIONS

- Ocean observatories
- Fish migration studies
- Long-term biological studies
- Improved fish stock assessment

WBAT is a cutting edge subsea innovation rising from a need to monitor marine life and detect gas leaks at virtually any corner of the world.

The WBAT is at the forefront of monitoring marine life. The instrument is available in two versions. The standard version is enclosed in an aluminium housing and depth range is 1500m. The extended version is enclosed in a steel housing and depth range is 6000 m.

When deployed, the WBAT is self-contained and will record data with the acoustic settings at the given time intervals. A built-in USB stick is used for storing recorded data.

Between data recording events the WBAT will be in “deep sleep”, conserving energy and extending battery life.

Order information

To order the WBAT in any of the two available versions, contact your local dealer. If you do not have a regular dealer, a list of all our distributors and dealers can be found on our website. Your dealer will also be able to help you with a detailed quotation including price and delivery information.

Transceiver

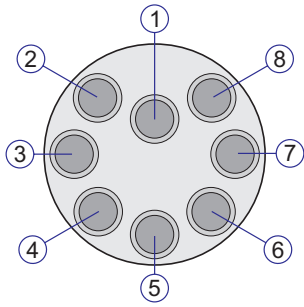
- Deliverables:
398129 WBAT 1500 m
453683 WBAT 6000 m

Included in the delivery:

- Transceiver
- Interface cable
- Documents

Transducer 8-pin

Connector type: MacArtney female MCBH8F

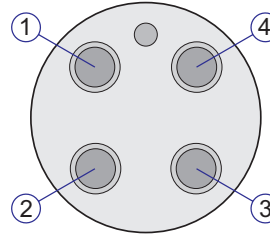


- 1 Channel 1+ (Black)
- 2 Channel 1- (White)
- 3 Channel 2+ (Red)
- 4 Channel 2- (Green)
- 5 Channel 3+ (Orange)
- 6 Channel 3- (Blue)
- 7* Channel 4+ (White/Black)
- 8* Channel 4- (Red/Black)

Face view of bulkhead connector

Transducer 4-pin

Connector type: MacArtney female MCBH4F



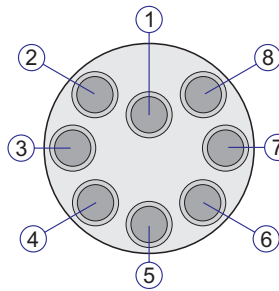
- 1* Channel 4+ (Black)
- 2* Channel 4- (White)
- 3 N/C (Red)
- 4 N/C (Green)

*Pins 7 and 8 on the 8-pin transducer connector are connected in parallel with pins 1 and 2 on the 4-pin transducer connector.

Face view of bulkhead connector

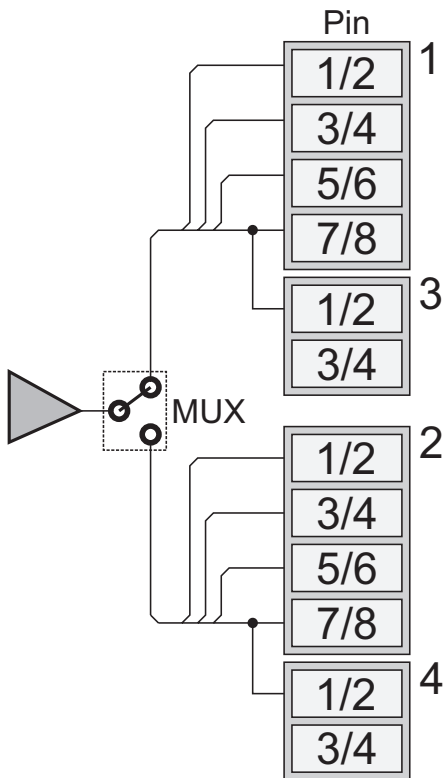
Serial RS 422

Connector type: MacArtney female MCBH8F



- 1 Transceiver Rx D + (Black)
- 2 Transceiver Rx D - (White)
- 3 Transceiver Rx D - (Red)
- 4 Transceiver Rx D + (Green)
- 5 Ground (Orange)
- 6 N/C (Blue)
- 7 N/C (White/Black)
- 8 N/C (Red/Black)

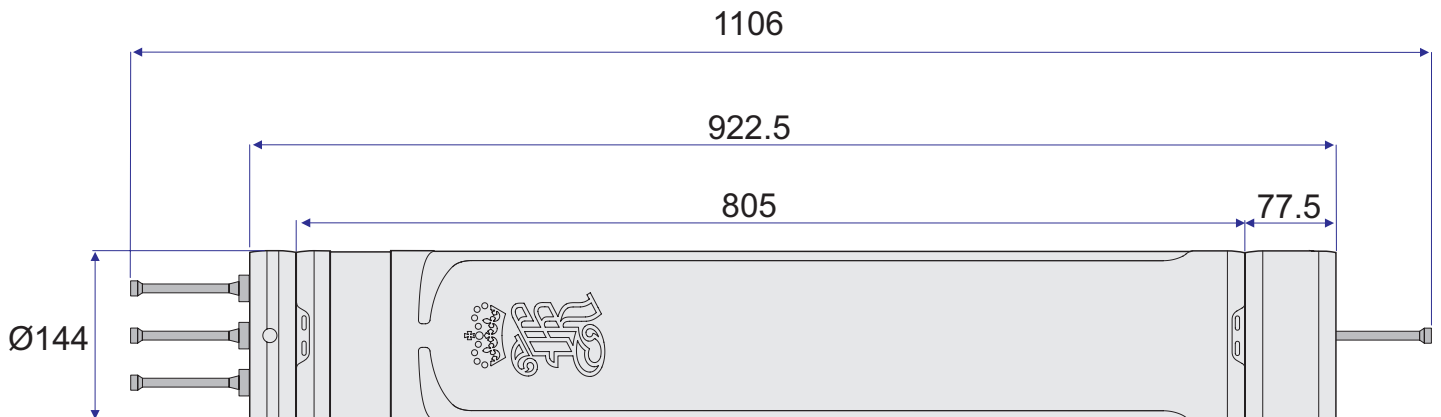
Face view of bulkhead connector



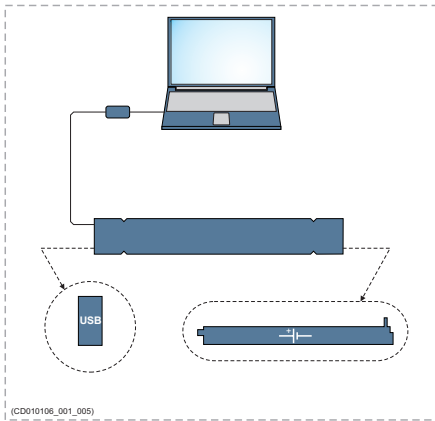
Transducers and multiplexing

The transceiver has four transducer connectors. There are two 8-pin connectors (identified as 1 and 2) and two 4-pin connectors (3 and 4).

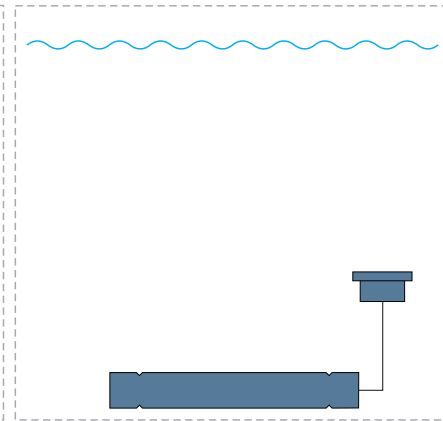
- Connector 1 is the main connector. It is always in use.
- Connector 2 is used for multiplexing with connector 1.
- Connector 3 is used for adding an extra single-beam transducer when a 3-sector split-beam transducer is connected to connector 1
- Connector 4 is used for multiplexing with connector 3.



CONFIGURATION

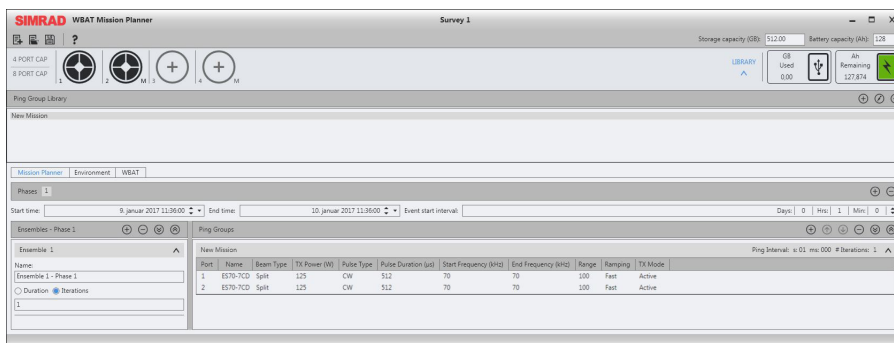


DEPLOYMENT



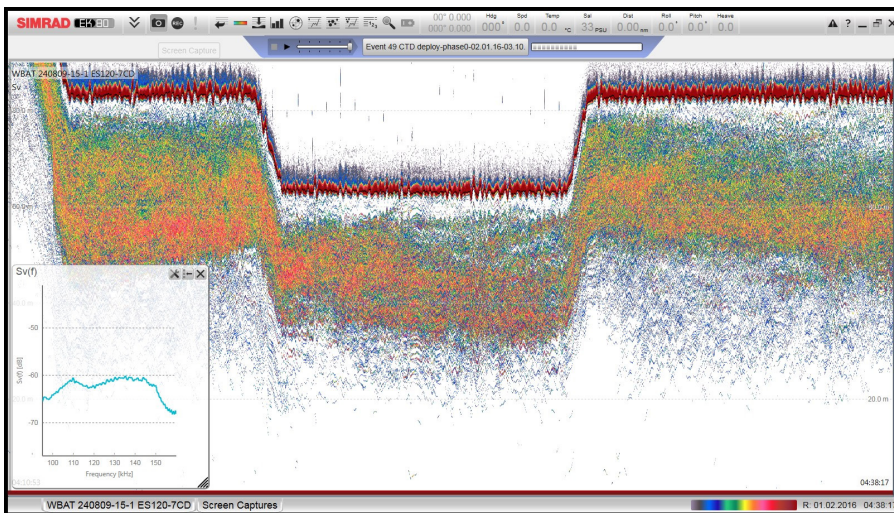
Regardless if the data is collected from the ship sounders, a profiling probe, or from other platforms; the echo sounders use the same data format.

A WBAT system consists of an autonomous transceiver, one or more transducers and Mission Plan software.



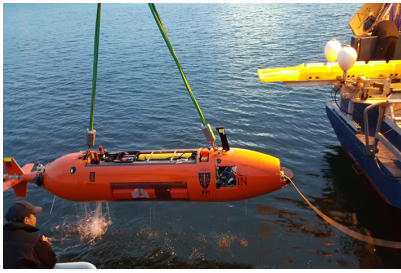
An advanced mission control software gives the operator a full spectre of parameters to choose from. Once uploaded into the transceiver the unit will record the data based on the acoustic settings.

Mission Planner user interface



The data from the system can be viewed and calibrated with the EK80 software as the RAW data format used by these products are identical.

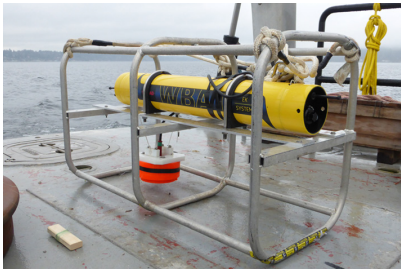
EK80 echogram playback of krill from Antarctica. (Screen capture kindly provided by the British Antarctic Survey, UK)



WBAT mounted in HUGIN Oslofford, Norway



WBAT testing onboard NOAA/Saildrone platform San Francisco



WBAT calibration on Lake Washington Seattle, WA

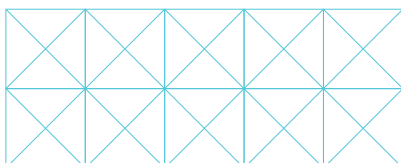


TECHNICAL SPECIFICATIONS

Performance	<p>Frequency range: 30-500 kHz</p> <p>Number of channels: 4</p> <p>Pulse forms; CW + FM (Linear up-sweep), Active and Passive</p> <p>Pulse duration: 128-2048 μs</p> <p>Multiplexing: Built-in multiplexer for each channel</p> <p>DC voltage: 14 V (internal battery)</p> <p>Battery capacity: 128 Ah</p> <p>Battery type: Primary Lithium</p> <p>Current consumption</p> <p>Active: 350 mA, Sleep: 1.5 mA</p> <p>Control: Pre-planned mission</p> <p>External interface: RS-422</p> <p>Maximum transmit power: 1000 W @55Ω</p> <p>Transducer options:</p> <p>Single beam/Split beam</p>
Weight Outline dimensions	<p>Outline dimensions:</p> <p>Diameter: 144 mm</p> <p>Length: 923 mm</p> <p>1500 m version:</p> <p>Weight in air (ex. battery): 18 kg</p> <p>Weight in water (incl. battery) 12 kg</p> <p>6000 m version:</p> <p>Weight in air: (ex. battery) 54 kg</p> <p>Weight in water (incl. battery) 48 kg</p>
Environment	<p>Operational temperature -5$^{\circ}$C to 40$^{\circ}$C</p> <p>Storage temperature -20$^{\circ}$C to 50$^{\circ}$C</p>
Depth rating	<p>Maximum depth:</p> <p>1500 m version</p> <p>6000 m version</p>

The WBAT Transceiver comprises a rugged cylinder providing all necessary transmitter and receiver electronics, a battery and the necessary interface and control circuitry. Here it is assembled with transducer mount..

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