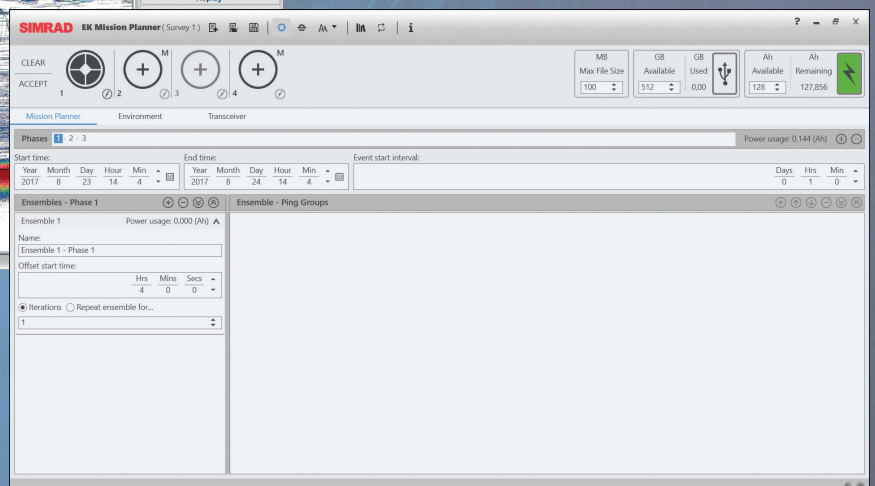
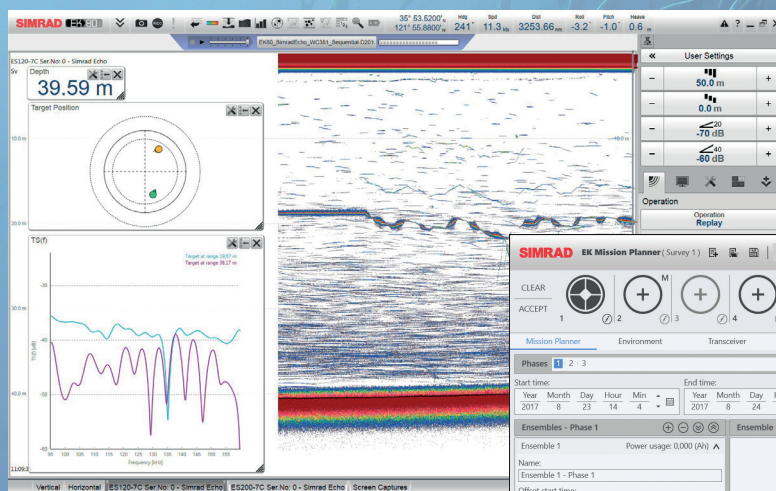


Simrad WBT Mini

Miniature wide band echo sounder transceiver



www.simrad.com

TECHNOLOGY FOR SUSTAINABLE FISHERIES

SIMRAD

The WBT Mini is a compact version of the highly efficient Wide Band Transceiver (WBT) used by marine research vessels all around the world. Its compact size and energy efficient design makes it perfect as a portable echo sounder or for installation on a wide range of platforms.

Description

The WBT Mini supports chirp (FM) and continuous wave (CW) pulse forms. It contains four individual transceiver channels with multiplexing functionality, allowing for flexible setup of split- or single beam transducer configurations.

The WBT Mini is contained in a splash proof cabinet and the robust design allows long-term deployment in challenging environments.

The WBT Mini can be operated in two different modes: EK80 mode or Autonomous mode.

EK80 mode

In this mode, the WBT Mini is used with a computer running the EK80 echo sounder software. The EK80 software provides full control of the WBT mini via Ethernet in real time. When used in EK80 mode .RAW echosounder data will be recorded to the computer disk(s).

This mode requires one or more EK80 software licenses.

Autonomous mode

In this mode, the WBT Mini is programmed to perform a predefined mission. A mission will normally record data in intervals over a period of time using specific acoustic settings. The mission plan is designed using the EK Mission Planner software and downloaded to the WBT Mini before mission start.

When used in Autonomous mode the high resolution .RAW data are stored internally and retrieved after mission completion.

During a mission the WBT Mini can be remotely controlled and monitored by sending operational commands and receiving downsampled data using the serial line interface.

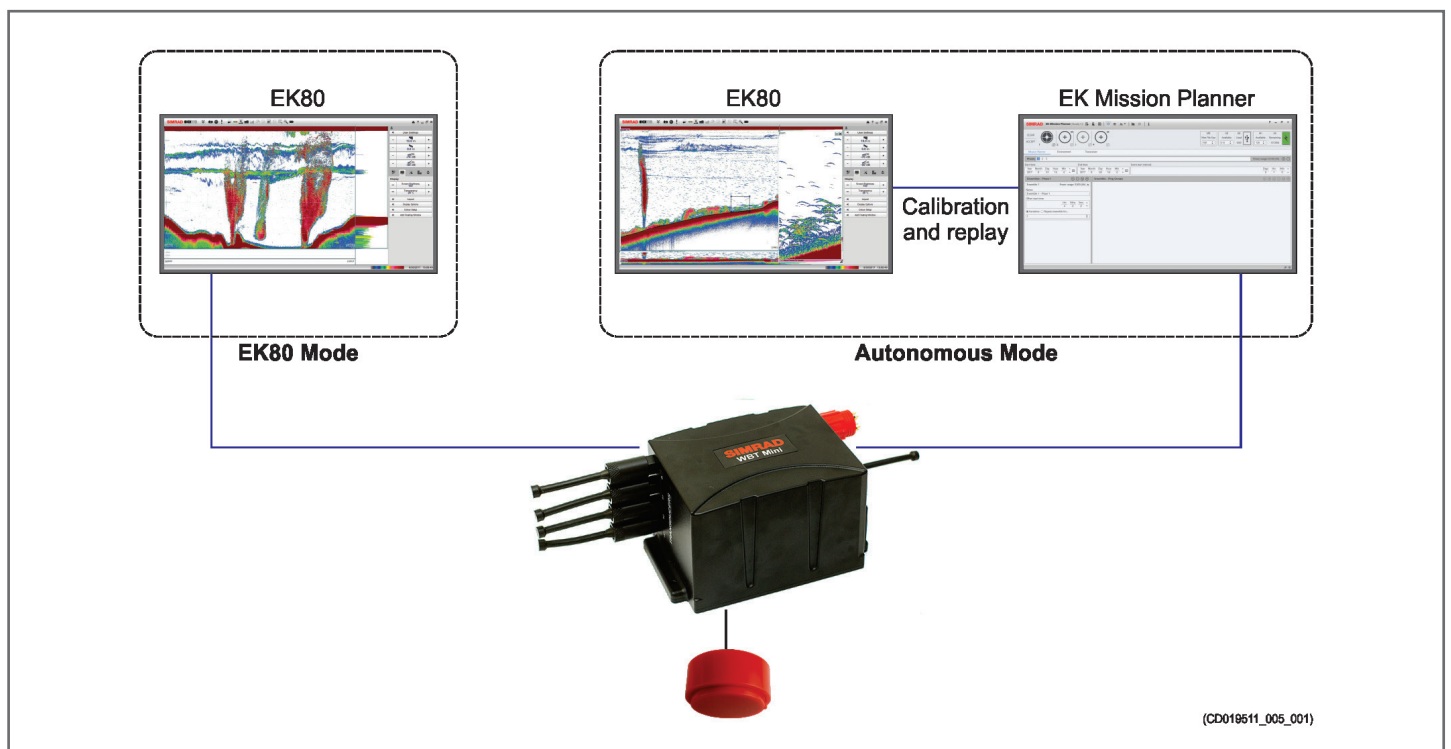
The Autonomous mode is an option that can be purchased separately.

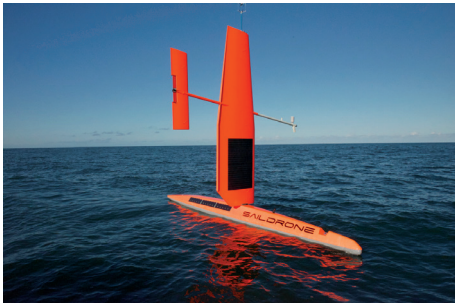
Key features

- A member of the Simrad EK80 wideband echo sounder family
- Rugged and compact design
- Splash Proof
- Operates in EK80 or Autonomous mode
- Four independent channels with built-in multiplexing available
- Built in calibration tool
- Low power consumption
- Wide range of transducers available

Typical applications

- Unmanned Surface Vehicles
- Autonomous Underwater Vehicles
- Autonomous Underwater Gliders
- Portable configurations
- Fixed installations in challenging environments





WBT Mini onboard a Sairdrone
(Image courtesy of Sairdrone)



WBT Mini onboard the Jolner USV

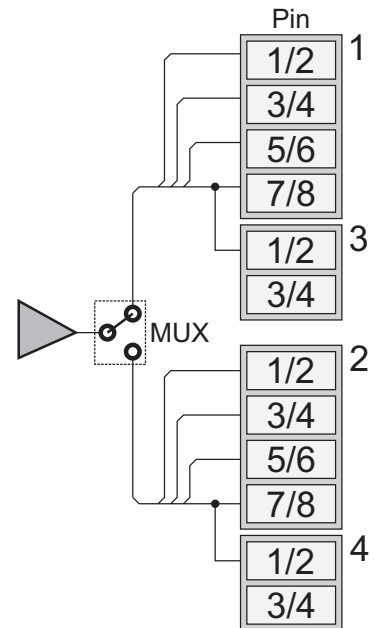


WBT Mini onboard the Remus AUV

Transducers and multiplexing

The WBT Mini 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 used.
- Connector 2 is used for multiplexing with connector 1.
- Connector 3 is used to add 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.



Technical specifications

Performance specifications

- Frequency range: 30 – 500 kHz
- Pulse duration: 64 – 2048 μ s
- Pulse forms: CW + FM (Linear up-sweep)
- Maximum transmit power: 1000 W @ 55 Ω
- Number of channels: 4 (With multiplexer: 8)
- Transducer options: Single beam/Split beam
- Memory capacity (Autonomous mode): 512 GB

Weight and outline dimensions

- Outline dimensions:
Depth: 145 mm
Width: 289 mm
Height: 127 mm
- Weight: 5.4 kg

Power requirements

- Voltage requirement: 12 – 16 VDC
 - Power consumption:
Active: 38 / 120 / 333 kHz: 6 / 3 / 3 W(*)
Passive: 2 W
Standby: <0.02 W (Autonomous mode)
 - Maximum current: 2.5 A (Peak)
- (* @ Maximum tx power, 1 ms pulse duration, and 2 ping/second)

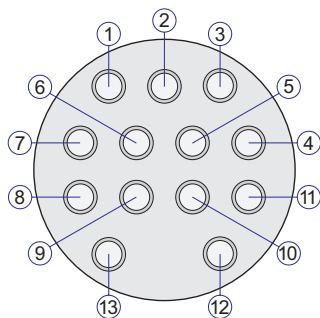
Environmental requirements

- Operational temperature: -15 to 55 $^{\circ}$ C
- Storage temperature: -20 to 70 $^{\circ}$ C
- Ingress protection (IP) rating: IP67
- Enclosure material: Aluminium

All specifications are maximum ratings. We are continuously working to improve the quality and performance of our products. The technical specifications may be changed without prior notice.

Power and Ethernet

Connector type: MacArtney male DBH13MAS

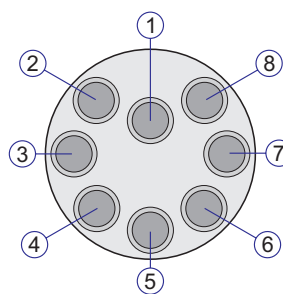


Seen towards the connector

- 1 +15 VDC (Black)
 - 2 Screen
 - 3 Ground (White)
 - 4 RJ45/8 (Brown*)
 - 5 RJ45/7 (Brown/White*)
 - 6 RJ45/4 (Blue*)
 - 7 RJ45/5 (Blue/White*)
 - 8 RJ45/2 (Orange*)
 - 9 RJ45/1 (Orange/White*)
 - 10 RJ45/6 (Green*)
 - 11 RJ45/3 (Green/White*)
 - 12 N/C (Red)
 - 13 N/C (Green)
- *Twisted pairs

Serial RS-422

Connector type: MacArtney female MCBH8F

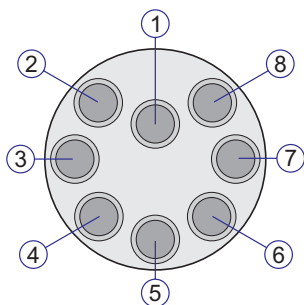


Seen towards the connector

- 1 WBT Mini RxD+ (Black)
- 2 WBT Mini RxD- (White)
- 3 WBT Mini TxD- (Red)
- 4 WBT Mini TxD+ (Green)
- 5 Ground (Orange)
- 6 N/C (Blue)
- 7 N/C (White/Black)
- 8 N/C (Red/Black)

Transducer 8-pin

Connector type: MacArtney female MCBH8F

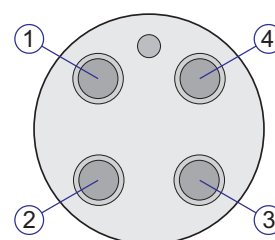


Seen towards the connector

- 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)

Transducer 4-pin

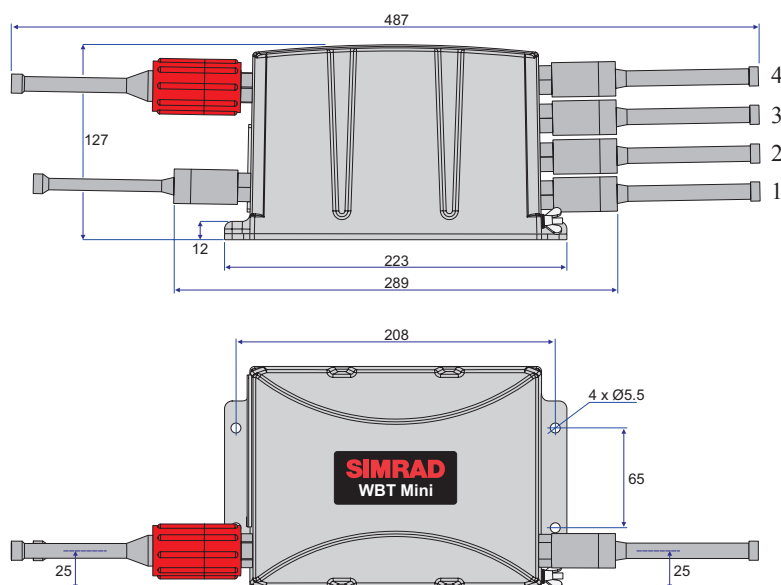
Connector type: MacArtney female MCBH4F



Seen towards the connector

- 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.



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