

Teledyne RESON

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# SeaBat® 7125

## Ultra high Resolution Multibeam Echosounder



The new generation SeaBat 7125 builds on the field experience and feedback from many users around the world and brings unparalleled resolution and installation flexibility. The system is available in three separate configurations; one designed specifically for installation on survey vessels and 6000m depth rated systems for either ROV or AUV.

Each of these configurations provides superlative data quality and ease of use over depths from 0.5m to 500m. Enhanced features such as X-Range and Full Rate Dual Head bring unsurpassed performance levels to the SeaBat 7125.

Special emphasis has been put on maximizing operational efficiency and features such as variable swath width and roll stabilisation combined with a high ping rate and excellent data quality.

### Surface Vessel Installation – SV2

The new SeaBat 7125-SV2 is a highly integrated single or dual frequency system designed with ease of installation and operation as a high priority. The system consists of a surface

transceiver with integrated multiport card and a standard 25m cable run to the transducers. The transceiver hardware is suitable for running data acquisition software and is available with Teledyne RESON PDS2000 software pre-installed and configured.

### ROV2

For deep-water use, the ROV version of the SeaBat 7125 is depth rated to 6000m and includes a titanium interface bottle. System performance is identical to other members of the SeaBat 7125 family and with optional features such as FlexMode and Full Rate Dual Head, the system provides state-of-the-art pipeline and umbilical profiling capability.

### AUV

The AUV version of the 7125 provides on-board data processing and logging as well as interface to third party sensors. The electronics are supplied mounted on an aluminium frame for ease of integration and an optional 6000m depth-rated titanium electronics housing is available. The 7125-AUV provides high quality data and performance commensurate with the other versions of the 7125.

## FEATURES

### BEAM DENSITY

Up to 512 beams in selectable modes optimises operations for any survey type

### ROLL STABILIZATION

Real-time roll stabilization maximizing usable swath

### DEPTH

Dual frequency provides seamless coverage from 0.5 to 500m depth

### IHO

Compliance with IHO SP44Ed5 over entire depth range

### DIAGNOSTICS

Advanced diagnostics

### HIGH SPEED

High ping rate allows highspeed operations without compromising data density

### WATER COLUMN DATA

Allows collection of high density water column data for advanced processing

## SEABAT 7125 SYSTEM SPECIFICATIONS

|                                | 7125 SV2  | 7125 ROV2  | 7125 AUV                 |
|--------------------------------|---|--|--------------------------|
| Power requirement              | <p>Typical: 110-220 VAC, 50/60 Hz, 250 W.</p> <p>Max: 110-220 VAC, 50/60 Hz, 700 W.</p> | <p>Processor Typical: 110-220 VAC, 50/60 Hz, 110 W.</p> <p>Processor Max: 110-220 VAC, 50/60 Hz, 400 W.</p> <p>Wet end Typical: 48 VDC (+/- 10%), 115 W.</p> <p>Wet end Max: 48 VDC (+/- 10%) 250 W.</p> <p>Power requirements when Wet-ends are powered from sonar processor: 110-220 VAC, 50/60 Hz, 700 W.</p> | 48V DC (± 10%)           |
| Transducer cable length        | 25m standard  | 3m standard 10m optional   | 3m standard 10m optional |
| LCU to processor cable length  | N/A   | 25m (st), 3 m  | N/A                      |
| System depth rating            | 25m   | 6000m  | 6000m optional           |
| Frequency                      | 200kHz or 400kHz (dual frequency available)   |  |                          |
| Along-track transmit beamwidth | 2° at 200kHz & 1° at 400kHz   |  |                          |
| Across-track receive beamwidth | 1° at 200kHz & 0.5° at 400kHz   |  |                          |
| Max ping rate                  | 50Hz (±1Hz)   |  |                          |
| Pulse length                   | 30µs – 300µs Continuous Wave; 300µs – 20ms Frequency Modulated (X-Range)                |  |                          |
| Number of beams                | 512EA/ED at 400kHz, 256EA/ED at 200kHz  |  |                          |
| Max swath angle                | 140° in Equi-Distant Mode; 165° in Equi-Angle Mode                                      |  |                          |
| Typical depth <sup>2)</sup>    | 0.5m to 150m at 400kHz, 0.5m to 400m at 200kHz  |  |                          |
| Max depth <sup>3)</sup>        | >175m at 400kHz; 450m at 200kHz   |  |                          |
| Depth resolution               | 6mm   |  |                          |
| Data output                    | Bathymetry, sidescan and snippets 7K data format  |  |                          |
| Temperature:                   | -2° to +35°C  |  |                          |
| Flexmode:                      | Optional  |  |                          |
| Full Rate Dual Head            | 400 KHz for ROV/ AUV  |  |                          |

For relevant tolerances for dimensions above and detailed outlined drawings see Product Description

1 All beam widths measured at -3dB, unsteered with a sound velocity of 1480m/s.

2 This is a depth range within which the system is normally operated, from the minimum depth to a depth value corresponding to the max. swath -50%.

3 This is the single value corresponding to the depth at which the swath is reduced to 10% of its max. value. For actual swath performance refer to Product Description.

For more details visit [www.reson.com](http://www.reson.com) or contact your local Teledyne RESON Office. Teledyne RESON reserves the right to change specifications without notice. 2012©Teledyne RESON

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## SEABAT 7125 SYSTEM SPECIFICATIONS

| Component  | 7125 SV2 | 7125 ROV2 | 7125 AUV |
|--|----------|-----------|----------|
| EM 7216 receiver   | ✓        | ✓         | ✓        |
| TC 2181 dual frequency 200/ 400 khz projector                  | ✓        |           |          |
| TC 2160 400khz projector                                       |          | ✓         | ✓        |
| TC 2163 200khz projector (optional)                            |          | ✓         | ✓        |
| 7-link control unit  |          | ✓         |          |
| Sonar processor unit with monitor, keyboard and pointer device |          | ✓         |          |
| SV transceiver with monitor, keyboard and pointer device       | ✓        |           |          |
| 7-i integrated control and processor unit                      |          |           | ✓        |

| Measurements                      | Height [mm] | Width [mm] | Depth [mm] | Weight [kg/air] | Weight [kg/water] |
|-----------------------------------|-------------|------------|------------|-----------------|-------------------|
| TC 2181 df 200/ 400 khz projector | 87          | 93         | 280        | 4.5             | 3.4               |
| TC 2160 400 khz projector         | 77          | 62         | 285        | 2.7             | 1.7               |
| TC 2163 200khz projector          | 115         | 100        | 280        | 7.5             | 5                 |
| EM 7216 200/400 khz receiver      | 137         | 496        | 102        | 10.7            | 5.7               |
| Surface transceiver               | 5U          | 19"        | 557        | 20              | N/A               |
| LCU bottle                        | 530         | Ø174       | N/A        | 23.5            | 12.0              |
| ICPU frame                        | 172         | 166        | 497        | 10              | N/A               |
| Sonar processor                   | 5U          | 19"        | 630        | 30              | N/A               |

### OPTIONS:

- Mounting Bracket with Fairing
- SVP-70 sound velocity probe with 25m cable
- Extended warranty/ support & maintenance contracts
- Fiber-optic conversion for ROV installations

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### WHY CHOOSE A SEABAT 7125 SYSTEM?

- Maximum productivity during data collection
  - Up to 165° swath
  - Roll Stabilization
  - Up to 512 beams in operator selectable modes
- Uncompromised clean data sets
  - Quality Filters/flags
  - Interactive, Comprehensive GUI
  - Industry leading bottom detect methods
- Ease of Installation and Use
  - Fully automatic operation
  - Single highly integrated topside transceiver
  - Integrated Multibeam acquisition and processing software
  - Extremely portable wet-end
- Maximum Operational Flexibility
  - 400 and 200kHz operation for seamless data collection from 0.5m to 500m
  - Advanced beam-forming with variable and steerable swath
  - Simultaneous output of bathymetry, Sidescan, Snippets backscatter, and raw water column data
  - Optional X-Range for increased range performance, ultra-high resolution and resistance to external noise

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