

EM[®]SBP



KONGSBERG

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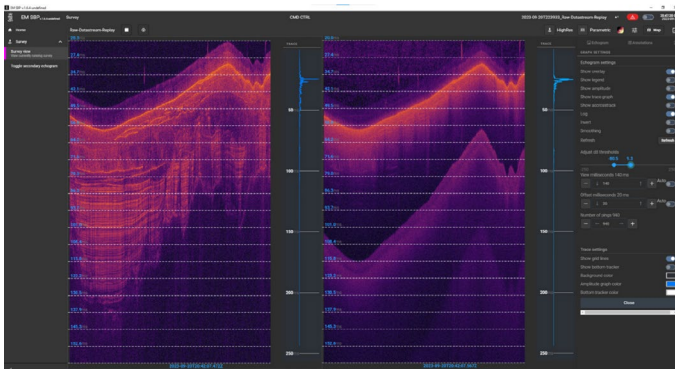
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Sub-bottom with your EM304 or EM124

EMSBP gives you as a user of EM304 or EM124 multibeam echo sounders the unique opportunity to add sub-bottom data to your survey, without needing to buy or install sub-bottom specific transducers or electronics. At a user selectable interval, the EM304/124 system can be instructed to issue sub-bottom specific signals that converts into parametric low frequency chirp pulses in the water column. The EM receiver unit picks up the returned echoes from the sub-bottom transmissions and forward these observations to the EMSBP software for sub-bottom specific processing and imaging. The EMSBP sub-bottom application runs on a dedicated operator station and accommodates beam forming and match filtering, echogram enhancement and display, as well as data management and necessary communication with the EM Processing Unit. Its integration with the EM multibeam system ensures access to the external sensor data, such as attitude and position, without additional physical connections. EMSBP supports data logging and export to SEG Y. Raw data can be replayed. The state-of-the-art web-based user interface provides a flexible, modern and pleasant user experience. If you are unfamiliar with sub-bottom data acquisition, or if you want to leave it as unattended as possible, the application provides automated settings to help ensure optimal sub-bottom profiler settings

Key Features

- Licensed software
- User selectable ping sequence
- Simultaneous sub-bottom imaging from primary and parametric signals
- Attitude compensation
- Automated transmit and receive settings
- Data storage and export to SEG Y
- Echogram colour selection
- Dynamic gain adjustments
- Logarithmic or linear view
- Trace view
- Annotation



License Options

- Perpetual
- 1-month
- 3-month
- 6-month

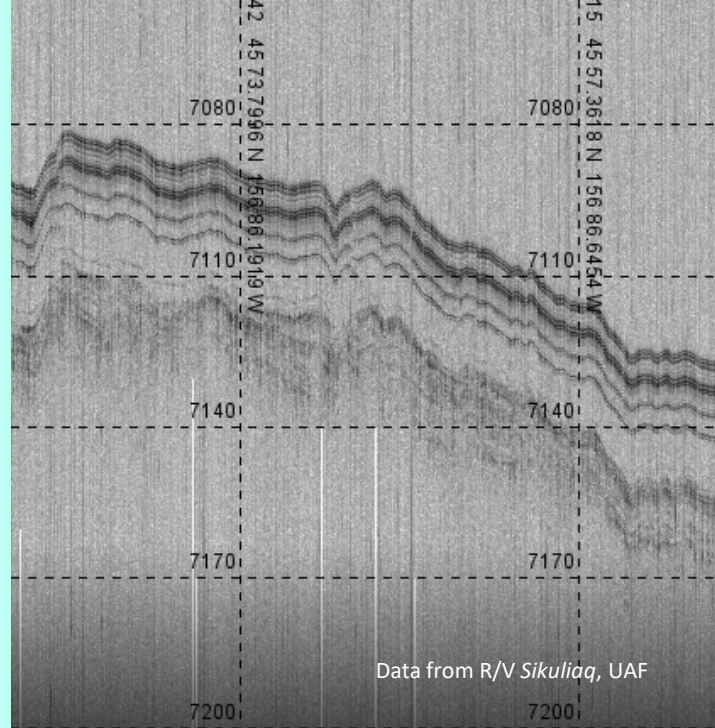
Performance:

The effectiveness of a sub-bottom profiler system largely depends on factors such as its source level, transmit beam width, and frequency range. In the case of EMSBP, these characteristics are defined by the specific EM multibeam echo sounder system in use.

	EM304 MKII (1x1°) ²	EM124 (1x1°) ²
Primary frequency range (B)	20-32 kHz	11-13.5 kHz
Primary source level [dB re 1μPa re 1m]	Up to 237 dB	Up to 240 dB
Parametric frequency range	2-11 kHz	1-2.5 kHz
Parametric source level [dB re 1μPa re 1m]	201 dB @ 4 kHz	202 dB @ 2 kHz
Vertical resolution (1/B)	0.10 ms	0.7 ms
Beam width along	1°	1°
Beam width across	6° @ 4 kHz	6° @ 2 kHz

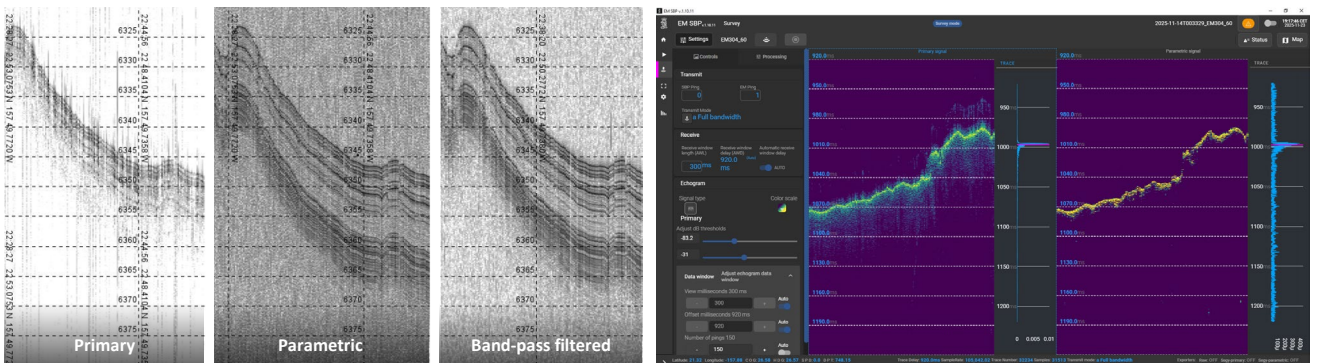
¹ Equivalent source level @ 4 kHz in the far field estimated based on expected parametric signal conversion.

² Several other configurations are available



Simultaneous primary and parametric sub-bottom profiling

Depending on sediment types and conditions, water depths and external noise levels, the primary and parametric signals may come out with different properties and advantages. The source level of the high frequency primary signals is significantly higher than that of the generated parametric signals, whereas the low frequency parametric signal is less attenuated in the sediments. Which one gives the best sediment imaging depends on the conditions. EMSBP gives you the benefit of both signal types, and you can see for yourself which methodology gives the best solution for your specific conditions.



High-performance state-of-the-art software architecture

The EMSBP software provides real-time high-resolution display of the echograms and traces. The echograms can be enhanced by your colour preferences, dynamic gain, and envelope display. The software supports full resolution zooming of the echogram. You can tag features of interest, and EMSBP will store the annotated positions with your description in a separate XML file. A map view is also available which you may find useful for visualizing your survey track. The map must not be used for navigation.