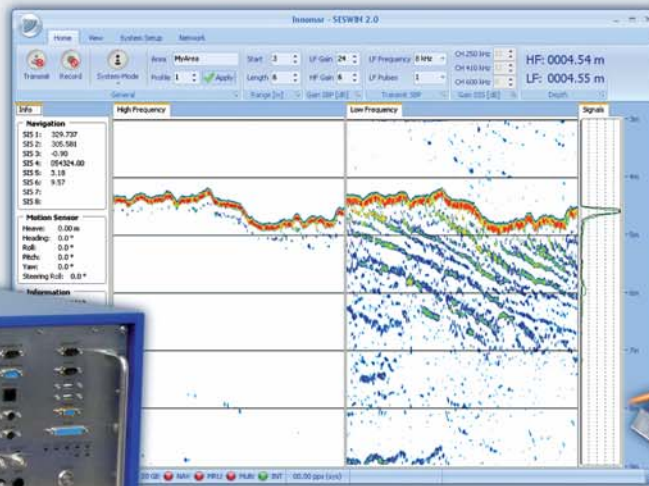


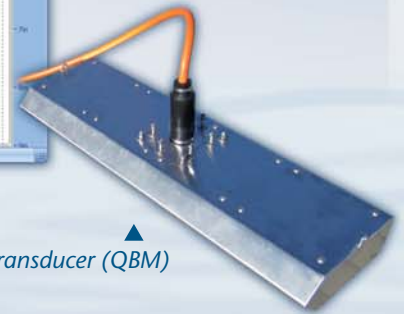


Top-side unit



Screenshot of the operating software

- single beam mode (SBM)
- dual beam mode (DBM)
- quattro beam mode (QBM)



Transducer (QBM)

► Performance

- water depth range:
 - SBM: 0.5 – 500 m
 - QBM: typically < 20 m (depends on array geometry)
- sediment penetration:
 - SBM: up to 50 m
 - QBM: up to 20 m
- layer resolution: up to 5 cm
- motion compensation: heave
- beam width @ 3 dB for all frequencies:
 - SBM: $\pm 1.5^\circ$ / footprint < 5.5 % of water depth
 - QBM: $\pm 2.5^\circ$ / footprint < 9.0 % of water depth

► Transmitter

- primary frequencies: approx. 100 kHz (band 85 – 115 kHz)
- secondary low frequencies: 4, 5, 6, 8, 10, 12, 15 kHz (band 2 – 22 kHz)
- primary source level:
 - SBM: > 242 dB// μ Pa re 1 m
 - QBM: > 236 dB// μ Pa re 1 m
- pulse width: 0.07 – 1 ms
- pulse rate:
 - SBM: up to 60/s
 - QBM: up to 15/s per transducer
- multi-ping mode (SBM)
- pulse type: CW, Ricker

► Acquisition

- primary frequency (echo sounder, bottom track)
- secondary low frequency (sub-bottom data, multi-frequency mode)
- sample rate 96 kHz @ 24 bit

SES-2000 quattro Parametric Sub-bottom Profiler

► System Components

- transceiver unit 19 inch / 6 U (WHD: 0.52 m x 0.30 m x 0.40 m; 32 kg)
- transducer excl. 20 m cable (WHD: 4 x [0.21 m x 0.06 m x 0.21 m]; 4 x 5 kg)
- system control: internal PC

► Software

- SESWIN data acquisition software
- SES Convert SEG-Y/XTF data export
- SES NetView remote display
- ISE post-processing software
- 3D volume renderer

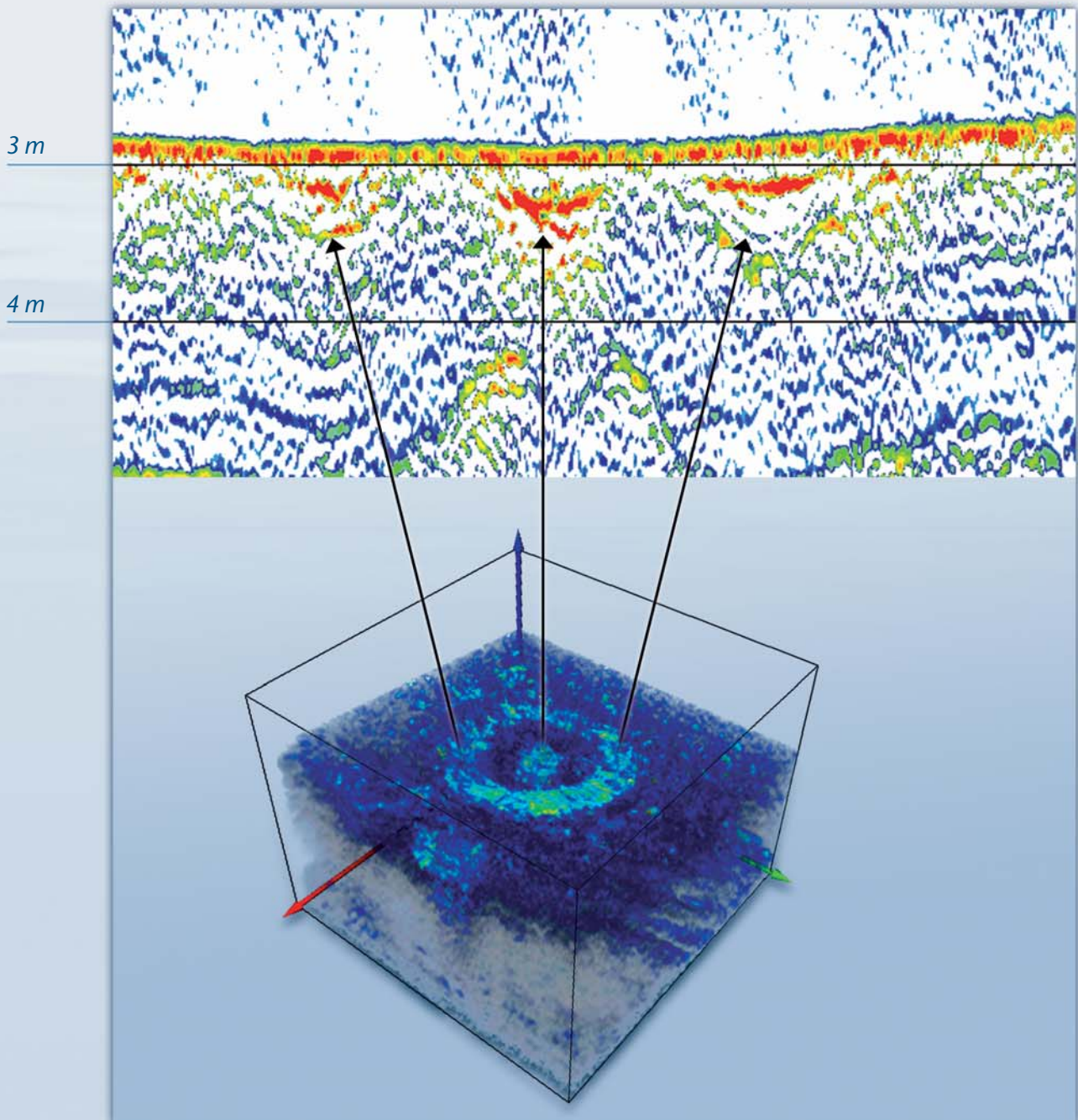
► Power Supply Requirements

- 100 – 240 V AC / 50 – 60 Hz
- power consumption: < 350 W



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Survey example of SES-2000 quattro



*Wismar Bay echo plot example and 3D volume rendered area with embedded circular structure
Frequency 10 kHz, pulse length 100 μ s, profile length 40 m (3D volume: 40 m x 40 m x 3 m)*

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