

A **NORBIT** Company



← with fairings mounted

► Performance

- Range: 0.5–200 m below transducer
- Seabed penetration: up to 20 m (depending on seabed type and noise)
- Range resolution: up to 5 cm (depending on pulse settings)
- Depth accuracy: 2.5 cm + 0.08% water depth
- Motion compensation: Heave and Roll ($\pm 10^\circ$) (beam forming at transmit only; external sensor data required)

► Transmitter

- Principle: parametric (nonlinear) acoustics
- Frequencies: 100 kHz (HF) / 5–15 kHz (LF)
- Primary Source Level: $>236 \text{ dB}/\mu\text{Pa re 1 m}$
- Acoustic Power: c. 2.2 kW
- Beam width: c. $4^\circ (\pm 2^\circ)$ roll \times $8^\circ (\pm 4^\circ)$ pitch for all frequencies
- Pulse type: CW, Ricker
- Pulse width: 0.07–0.8 ms
- Pulse rate: up to 30 Hz, multi-ping mode

► Data Acquisition

- Digital, 2 channels (LF and HF, "SES3" format)
- Sample rate c. 100 kHz @ 24 bit; resolution $<1 \text{ cm}$
- LF sub-bottom data: raw (full-waveform)
- HF data: processed (envelope)

► General & Applications

- First / latest product generation: 2025
- Small boats and vehicles, in- and near shore
- Integration into USV and ASV of all scales
- Remotely controlled and autonomous operation

► System Components

- Transducer with integrated transceiver electronics ("surface" depth rated): W 26 cm \times D 15 cm \times H 9.5 cm / c. 5 kg in air (weight in water c. 1.5 kg)
- cable (length 5–20 m), connectors at both ends
- Interface Unit (topside cable breakout box)
- System control PC (not included): MS Windows® based

► Optional Features

- Pair of removable fairings for pole-mounting (weight c. 1.4 kg in air / 0.6 kg in water)

► Power Supply

- 24 V (20–30 V) DC; AC power adapter (100–240 V AC) included in Interface Unit
- Power consumption: typ. 20 W / max. 30 W
- Power-on inrush current: max. 8 A

► Software

- SESWIN data acquisition software with extended remote-control (RCE)
- SES-Convert SEG-Y/XTF data export
- SES-NetView remote display
- ISE post-processing software (option)

