



### ► General & Applications

- First / latest product generation: 2017 / 2022
- Small boats and vehicles, in- and near shore
- Integration into USV and ASV of all scales
- Remotely controlled and autonomous operation

### ► Performance

- Range: 0.5–100 m below transducer
- Seabed penetration: up to 20 m (depending on seabed type and noise)
- Range resolution: up to 8 cm (depending on pulse settings)
- Depth accuracy: 2.5 cm + 0.1% water depth
- Motion compensation: Heave

### ► Transmitter

- Principle: parametric (nonlinear) acoustics
- Frequencies: 100 kHz (HF) / 10 kHz (LF)
- Primary Source Level: >235 dB/ $\mu$ Pa re 1m
- Acoustic Power: c. 2 kW
- Beam width: c. 5° ( $\pm 2.5^\circ$ ) for all frequencies
- Pulse width: 0.07–0.5 ms
- Pulse type: CW, Ricker
- Pulse rate: up to 40 Hz (pings/s)

### ► Data Acquisition

- Digital, 2 channels (LF and HF, "RAW" format)
- Sample rate c. 70 kHz @ 16 bit
- LF sub-bottom data: raw (full-waveform)
- HF data: processed (envelope)

### ► System Components

- Deck unit (transceiver electronics):  
Housing water-proof plastic case (IP65)  
W 47 cm × D 36 cm × H 17 cm / c. 9 kg
- Transducer:  
W 27 cm × D 21 cm × H 6 cm / c. 10 kg (w/ cable)  
cable length 15 m, moulded to transducer
- System control PC (not included):  
MS Windows® based

### ► Optional Features

- Water-proof Subconn® transducer connector
- Transducer mounting kit with shock absorbers
- External AC power adapter (100–240 V AC)
- SESWIN extended remote-control

### ► Power Supply Requirements

- 12 / 24 V (10–30 V) DC
- Power consumption: typ. 50 W / max. 100 W
- Power-on inrush current: max. 15 A

### ► Software

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

