Innomar "deep-15" Sub-Bottom Profiler

Innomar "deep-15" SBP

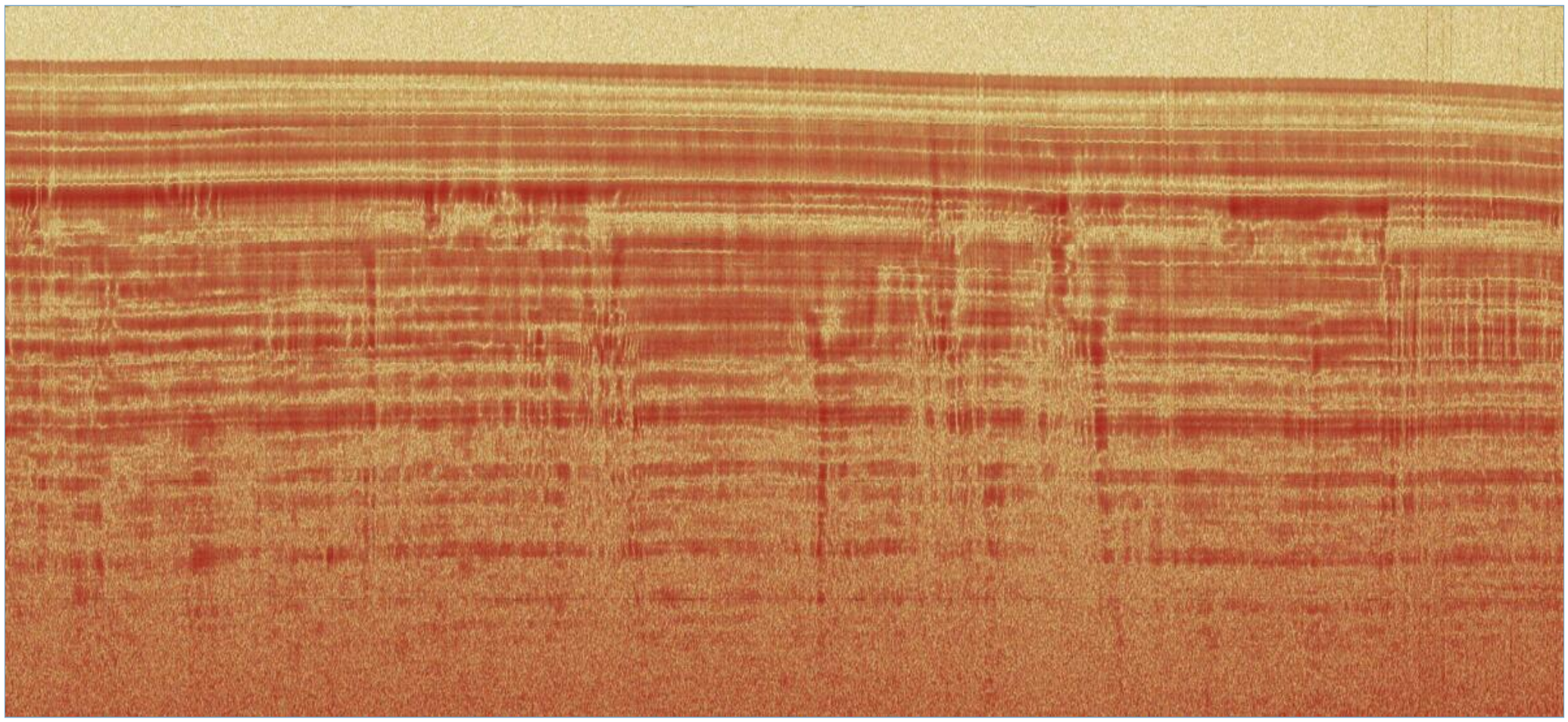
The **Innomar "deep-15"** parametric sub-bottom profiler is designed for offshore applications down to 11,000m water depth.

This model features full motion compensation for heave, roll and pitch vessel movements. For best data quality the sound beam is electronically stabilized at transmit and receive.

The picture shows the topside electronics (one transmitter unit and one receiver unit) and one of eight transducer sections.

The **Innomar "deep-15"** SBP acquires full-waveform data that can be processed with any seismic software (SEG-Y format). **Innomar** also provides the ISE post-processing software specialized on the **Innomar SBP** data.

This model has been launched in 2019 as "SES-2000 deep-15".



Innomar "deep-15" SBP data example from China (frequency 3.7kHz; water depth c. 3,800m)

Technical Specification

Water Depth Range	10 – 11,000+ m below transducer
Sediment Penetration	up to 250 m (depending on sediment type and noise)
Sample / Range Resolution	<2 cm / up to 20 cm (depending on pulse settings)
Transmit Beam Width (-3dB)	c. ±2.3° for all frequencies / footprint c. 8% of water depth
Ping Rate	up to 40 Hz (pings/s)
Heave / Roll / Pitch Compensation	heave + roll + pitch (depending on external sensor data)
Primary Frequencies (PHF)	c. 15 kHz (frequency band 10 – 20 kHz)
PHF Source Level / Acoustic Power	>243 dB//µPa re 1m / c. 10 kW
Secondary Low Frequency (SLF)	centre frequency user selectable: 0.75 - 3.7 kHz
SLF Total Frequency Band	0.5 – 5.5 kHz
SLF Pulse Type	Ricker, CW, LFM Chirp
Pulse Width	user selectable 0.25 – 5 ms (CW); 20 ms (chirp)
Data Acquisition and Recording	digital 24 bit / 48 kHz (full waveform)
Data File Format	Innomar "SES3" (24 bit), "SEGY" (via SESconvert)
External Sensor Interfaces	HRP (motion), GNSS position, depth (all RS232 / UDP), trigger (BNC)
Bottom Detection	internal (PHF and SLF data) or external depth
Depth Accuracy	(12 cm @ 15 kHz / 25 cm @ 1.5 kHz) + 0.08% of water depth
Remote Control / Survey Integration	KVM / basic functions via COM or Ethernet (UDP), NMEA
Topside Unit (Transceiver)	TX: W 52 cm × D 50 cm × H 74 cm (19'' / 16U) / weight c. 95 kg; RX: W 52 cm × D 40 cm × H 44 cm (19'' / 9U) / weight c. 40 kg
Transducer	W 140 cm × D 140 cm × H 35 cm / weight c. 925 kg (excl. 30m cables)
Transducer Depth Rating	Surface
Power Supply	100–240 V AC

Power Consumption	<1,000 W
Control / Data Storage PC	integrated PC (MS Windows 10/11 OS)
First / Latest Product Generation	2019 / 2019

Included Features

- Heave, Roll and Pitch beam stabilization
- 24-bit SLF full waveform data acquisition / Innomar "SES3" data format
- Multi-ping mode for maintaining a high pulse rate in deep waters
- Multi-frequency signals
- LFM chirp (full SLF band)
- Barker coded pulses for safe bottom track also in multi-ping modes
- Linear sub-bottom profiler / SBES echosounder mode (12/15/18 kHz CW and 12 – 18 kHz FM chirp pulses)
- Bottom slope control
- SESWIN basic remote-control via COM / UDP (e.g. line start/stop, line name)
- Transducer frame with integrated shock absorbers for hull-mounting

Optional Features

- KVM extender for remote control
- SESWIN extended remote-control via Ethernet (all survey settings)
- Transducer ice protection (acoustic window)

Software

- **SESWIN** data acquisition software
- **SES Convert** data converter software (RAW to SEG-Y, XTF, ASCII)
- **SES NetView** for online data and system information display on remote computers
- **ISE** post-processing software (optional)

Technical specifications are subject of change without notice.

Product overview

"medium-100" SBP	"medium-70" SBP
"deep-36" SBP	"deep-15" SBP

Shallow Water	High Power
Remotely Operated	Multi-Transducer
Innomar Software	

Innomar
1997 - 2024

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