

## SUBPRO 2545

### High-Performance Sub-Bottom Profiler for ASVs, ROVs and Shallow Water

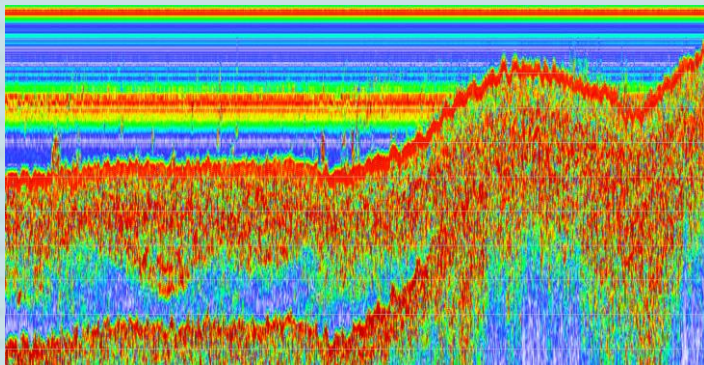
The SUBPRO 2545's multi-frequency capabilities result in efficient surveys with extraordinary results. Its settings can be tuned to match specific applications like, soft sediment evaluation, sediment transport monitoring, detection of upper sediment layers.

Additionally, the high resolution of the system enables an outstanding detection of embedded objects. Optional additional receiver for even higher spatial resolution and ultra-shallow water surveys, starting at 0.25m.

With its compact size and weight as well as low power consumption the SUBPRO2545 is the ideal unit for integration into USVs, ASVs and ROVs.



*The SUBPRO 2545 in operation, integrated into an unmanned surface vehicle (USV).*



*Echogram captured at 35 kHz in shallow water starting at 0.4 m water depth.*



*The transducer of the SUBPRO 2545 mounted into the hull of the USV.*

#### Easy Integration:

Optionally General Acoustics will provide the SUBPRO 2545 integrated in various USVs, ASVs and other vessels. Speak to us about your survey goals and we help you choosing a suitable platform including remote control, positioning and communications systems.

### System Components

- One high quality, narrow beam, broad band transducer 25 to 45 kHz for in-hull installation or over the side operation
- SUBPRO-System in IP65 housing (optional 19" housing for 230VAC version).
- Integrated controller for triggering, transmitting, receiving, amplifying and real-time processing of signals, pps-module for time synchronisation, power supply
- Graphic display via external or in-boat PC (not included)
- Windows operating software SUBPRO-Studio, including raw data logging and real time post/re-processing, data conversion into SEG-Y, Hypack-ready, GPS (NMEA) input
- Transducer cable

## Key Advantages

**Very compact size and low weight**, for USVs, ASVs, ROVs.

**Energy efficient** operation and overall low power consumption for optimized battery size at autonomous survey platforms

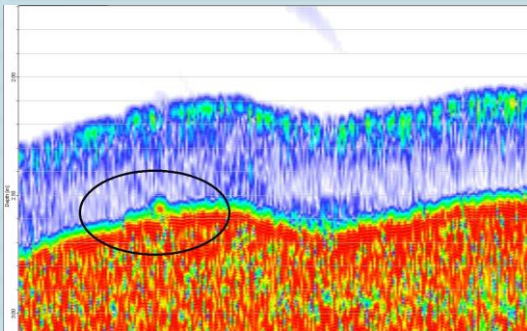
**One single system** for sub bottom, as well as **hydrographic surveying** tasks.

**Suitable for all sizes** of survey-vessels or ships, as a portable or hull mounted system.

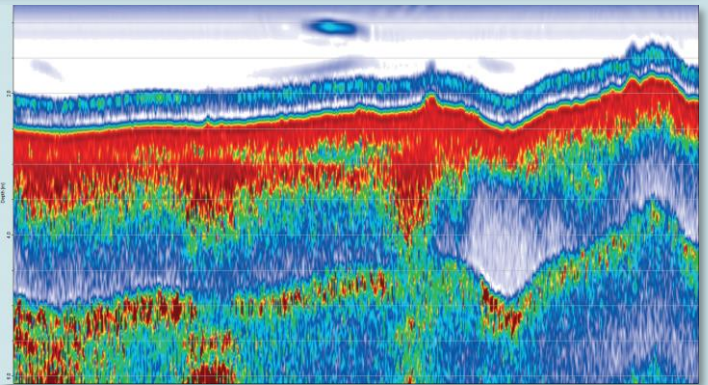
**Ultra-shallow water capabilities**, starting at 0.25m

**Easy integration** as a complete measuring system and survey system.

## Application Examples



*Echogram captured at 45 kHz revealing a small 5 cm object in 2.5 m water depth on top of sand sediment, buried under a biological layer*



*Echogram captured at 45 kHz from 0 to 6m water depth showing a clear view on the sediment layers.*

## Specifications

### System

- Frequency: 25 to 45 kHz
- Transmit power: up to 2 kW peak (optionally 4 kW peak)
- Ping duration/ -rate: 80  $\mu$ s to 1 ms / up to 20 Hz
- Dynamic Range: 160 dB
- Technical internal resolution: 1 mm (24 bit)
- Vertical resolution: < 5 cm (depending on settings)
- Penetration: more than 15 m (depending on material and settings)
- Power Supply: 24 VDC (optional 230 VAC - only in 19" housing)
- Power consumption: 60 W
- Controller dimensions: 33 x 23 x 15 cm
- Controller weight: 8.5 kg

### Transducer

- Broadband, 25 to 45 kHz, narrow beam
- Beam Angle: 9° at 25kHz, 6° at 45 kHz ( $\varnothing$ 20 cm), 6° at 25 kHz, 4° at 45 kHz ( $\varnothing$  30 cm)
- Size ( $\varnothing$  x h): 20 x 15 cm (optional 30 x 14 cm)
- Weight: 8 kg (18 kg for  $\varnothing$  30 cm)
- Cable Length: 1m (longer on request)
- Optional separate receiver dimensions: 10 x 10 x 2 cm