Meridata's High-definition Sub-bottom Profiler combines excellent sub-bottom penetration and superior sediment layer resolution in a single system.

Capable of simultaneously using multiple frequency bands, the system provides a full view of the sub-bottom, to the finest detail.

Chirp frequency range – 2 to 50 kHz.
Sub-bottom penetration – up to 80 m.
Resolution – up to 3 cm true sediment layer resolution.

Seismic reflection profiling subsystem (sparker/boomer) for added penetration.

**BASIC SYSTEM**

- Components
  - Interface unit (USB-powered)
  - Transmit amplifier (several models)
- Physical
  - 483 x 285 x 44 mm, 3.2 kg (interface unit)
  - 483 x 267 x 44 mm, 4.2 kg (transmit amplifier)
  - 580 x 580 x 160 mm, 5 kg (optional transit case)
- Connections
  - USB interface for control and data acquisition
  - Up to two chirp transducer connectors
  - Seismic subsystem interface (option)
- Software
  - Meridata MDCS for system control and data acquisition
  - Freely adjustable chirp parameters: transmission pulse start and end frequency (2-50 kHz), transmission pulse duration (0-20 ms), pulse shaping (several options), ping rate (0-40 Hz)
  - Proprietary chirp processing algorithms for ultra-high resolution and profile image clarity
  - Acquisition of position and timing data; optionally ancillary sensor data (heading, heave, roll, pitch and sound speed)
  - Versatile visualisation options for acoustic trace data (profile, scope views, spectrum display)
  - Optional Navigation Planning and Support module
  - Simultaneous data recording from several instruments (up to two chirps, ancillary sensors; optionally sparker/boomer, side-scan sonar, multibeam echo sounder)

**CHIRP TRANSDUCERS**

UHF chirp transducer (20-50 kHz)
- for ultra-high resolution in soft sediments
- water depth range 1 to 1200 m, penetration up to 20 m, resolution better than 3 cm
- weight 7 kg, dimensions 184 mm (diameter) x 120 mm (height)

HF chirp transducer (10-20 kHz)
- for good penetration and high resolution in fine-grained sediments
- water depth range 1 to 1200 m, penetration up to 40 m, resolution better than 10 cm
- weight 8 kg, dimensions 184 mm (diameter) x 120 mm (height)

LF chirp transducer (2-9 kHz)
- for excellent penetration in fine-grained sediments
- water depth range 2 to 6000 m (with multiple transducer array), penetration up to 80 m, resolution better than 20 cm
- weight 11 kg, dimensions 184 mm x 184 mm x 263 mm (height)

**OPTIONS**
- over-the-side mounting platform for chirp transducers
- seismic reflection profiling subsystem for penetration in coarse sediment/deep water, deep penetration
- side-scan sonar subsystem for high resolution, wide coverage surveys

Specifications are subject to change without prior notice.
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Below are examples of sub-bottom profiles acquired using Meridata High-definition Sub-bottom Profiler:

**UHF chirp**

Water depth 10 m, sediment penetration up to 20 m, sediment layer resolution better than 3 cm.

**LF chirp**

Water depth 200 m, sediment penetration >50 m, sediment layer resolution better than 20 cm.

**Seismic reflection profiling subsystem**

Water depth 20 m, sediment penetration >60 m, sediment layer resolution better than 30 cm.