

# New Parametric Sounder from Atlas Hydrographic

Atlas Hydrographic has introduced a new parametric multibeam sub-bottom profiling system, Parasound DS-3. The highest performance parametric system of its type presently available, it provides very precise high-resolution sub-bottom and water column data from 10m to full-ocean depth.

Parasound DS-3 is capable of sediment penetration in excess of 200m while sampling data at up to 50 kHz frequency at all depths down to 10,000m. Digital pulse modulation ensures optimum signal-to-noise ratios, with Chirp and Barker code modulations as standard features and customised pulse modulation also available. A multi-pulse function permits transmission and receipt of up to 13 self-contained pulses within one original ping cycle. Narrow transmission beams are motion-compensated for pitch, roll and yaw in real-time using a high-performance motion sensor.

The system incorporates digital beam-forming in user-selectable modes for different survey operations. This enables the operator to select the most appropriate operating mode so as to maximise both system performance and survey efficiency. For example, flexible beam steering may be selected for continuous seabed mapping along pre-defined tracks, allowing watch-free operations with maximised returned signal strength from the automatic incidence angle control feature. Conversely, the multibeam sub-bottom profiling capability can be used to scan seafloor sediments for targets of interest.

Parasound DS-3 is additionally designed to minimise the environmental impact of high source level, low frequency sonars on marine mammals such as whales, dolphins and seals. A Whale Warning Mode (WWM) emits a user-defined sequence of transmissions to deter presence of mammals within survey areas prior to commencement of operations while an Automatic Source Level Control (ASLC) permits adjustment of transmission source levels to the minimum necessary level for operations; there is also a conventional, non-parametric sub-bottom profiling mode for use in source level restricted areas or those where mammals have been sighted.

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