**Calypso**

**Next Generation VSO Seabed Acquisition System**

**NEXT WAVE SEABED IMAGING**

Calypso™ is ION’s next generation redeployable ocean bottom cable (OBC) acquisition system. The system delivers densely sampled, full-wave imaging in 5-2,000 meters of water. Calypso cost-effectively captures superior broadband data to help identify new plays, uncover obscured targets, and improve production decisions. The system builds upon the superior imaging and HSE advantages of its predecessor, VSO, while making acquisition more efficient with larger, more cost-effective spreads. Calypso’s command and control system simplifies and automates navigation, spread positioning, data management and QC across the seismic workflow.

**PROPRIETARY TECHNOLOGY DELIVERS UNRIVALED IMAGE QUALITY**

Calypso delivers superior imaging with dense, multicomponent broadband data. The system records the full seismic wavefield with unsurpassed vector fidelity and coupling to provide the highest resolution data to seabed acquisition.

- VectorSeis® tilt-insensitive 3C sensors record p-wave and s-wave energy with superior vector fidelity and an enhanced high and low frequency response
- Proprietary derivative pressure hydrophones enable proper, more accurate P-Z summation during data processing
- Patented acoustic decoupling technology isolates the sensor from the cable and enables superior ground coupling for higher signal-to-noise ratio data
- Buoy-based recording eliminates the operational expense of dedicated recording vessel(s) used by conventional OBC systems
- With much larger receiver layouts than conventional OBC systems and no limit on the number of cables, surveys can be acquired with huge spreads, improving efficiency, azimuth and offset coverage.

Calypso provides a step-change in OBC technology and is designed to operate in water depths from 5-2,000 m with suitable handling equipment.

**Acquisition Technique of Choice for Development and Production Objectives**

With its ability to record broad bandwidth, high signal-to-noise ratio data, Calypso builds upon a proven track record of delivering the highest resolution imaging in the marine environment.

Calypso enhancements further improve crew productivity and reduce HSE exposure, resulting in a safer, more economic full-wave solution. It provides oil and gas companies the opportunity to make OBC their preferred acquisition technique — not only for obstructed areas, but also for surveys traditionally shot with towed streamer technology.
SHORTER CYCLE TIME THROUGH IMPROVED ACQUISITION PRODUCTIVITY

With a buoy-based architecture, Calypso is designed to overcome operational inefficiencies inherent in conventional redeployable OBC systems that rely on a dedicated recording vessel. New features in Calypso build on this productivity advantage.

→ Twice the cable length (12-24 km) increases productivity
→ Buoy-based recording reduces operational complexity and ensures that no time is wasted moving a recording vessel and connecting jumper or transverse cables
→ Continuous recording maintains the highest level of data integrity by overcoming intermittent radio transmission interruptions in obstructed or congested areas and by permitting continuous shooting into large spreads with long offsets even when typical radio range is exceeded
→ A new node bypass feature routes signals past non-functioning nodes, eliminating downtime from array electronic faults
→ Advanced diagnostic measurements and consolidated reporting tools maximize productivity by streamlining maintenance and fault isolation of cables and sensor nodes
→ Newly designed, robust triple-armored cables excel in 5-2,000 m of water, providing flexibility to work in the most challenging fields and conditions around the world
→ Field repairable design reduces repair costs and down time

NEW DESIGN REDUCES HSE EXPOSURE

Calypso is part of ION’s commitment to continually improve the safety and efficiency in seismic recording systems.

→ Buoy-based design eliminates the recording vessel found on conventional OBC crews, thus reducing the number of personnel and vessels in the survey area, eliminating the HSE risk associated with connecting and dragging on board transverse and jumper cables, and providing operational flexibility to avoid hazardous or no-entry safety zones
→ Advanced diagnostic measurements reduce the need to retrieve the cable to troubleshoot problems
→ State-of-the-art command and control system mitigates the risk associated with distributed, multi-vessel operations
→ New custom cable and buoy handling system is optimized to provide safe and efficient operations, extending asset life
→ Real-time quality control and reporting tools ensure data integrity, providing confidence in the data set before retrieving cables and moving to another part of the prospect