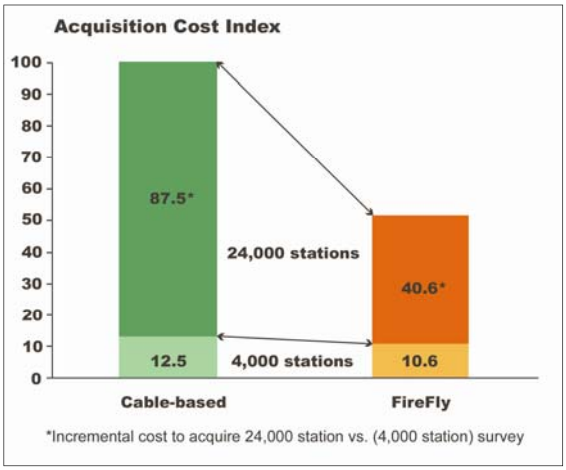
FireFly®

Cableless Land Seismic Acquisition System

Designed to Improve Image Quality & Operational Productivity

FireFly, the latest innovation from I/O, is a cableless seismic acquisition system designed to revolutionize land imaging. FireFly combines proven wireless communication, data storage, and power technologies in an architecture that is inherently reliable and capable of supporting cost-effective, high station-count surveys. FireFly acquires fully sampled, full-wave data while simultaneously increasing operational productivity and reducing health, safety, and environmental (HSE) exposure.

By eliminating cable telemetry, the total weight of FireFly, including associated ground electronics and power supplies, is reduced by up to 80% compared to conventional, cable-based systems. In addition, eliminating the cables means less downtime for troubleshooting and repair. Reductions in weight and troubleshooting time translate into less manpower intensity in the field and improved crew safety performance. The smaller footprint of FireFly also reduces the risk of environmental disturbance compared to cable-based systems.



Relative costs to acquire 4,000 and 24,000 station surveys using a cable-based recording system vs. FireFly

FireFly incorporates several unique features to support high-productivity acquisition of fully sampled, full-wave broadband seismic data:

VectorSeis® compatibility

Single-point, 3C recording using digital MEMS accelerometers rather than geophone arrays

- Broadband, full-wave data acquisition with high vector fidelity

Concept Systems' Connex™ operational control & data management software

Integrated workflow management software to enhance visibility into field acquisition operations

- Ensures conformance to original survey design parameters
- Enables rapid station deployment and pickup
- Supports streamlined execution of the acquisition workflow
- Delivers highly integrated data that is processing-ready

NavTool™ with integrated global positioning system (GPS) provides crew and equipment location data to support field operations

- Provides accurate receiver xyz information that is recorded to trace data
- Aids in efficient station layout/pickup and shooting
- Reduces HSE exposure by providing navigation corridors within safe, permitted boundaries

Storage mode architecture

Autonomous, self-contained Field Station Units (FSUs) that store tens of thousands of 3C shot records in non-volatile memory

- Eliminates station-to-station interdependencies
- Provides the most reliable system architecture possible
- Eliminates data telemetry bandwidth bottlenecks

Cableless telemetry

Wireless architecture that eliminates interconnecting cables between stations

- Significantly less weight than conventional cable systems
- Improves field deployment efficiencies to increase productivity
- Removes cable-driven layout constraints to enable customized survey designs

Intelligent QC

Independent communications links to the central system with user-configurable QC parameters and thresholds

- Trace attributes returned to the central
- Station performs internal QC on every shot
- Automatic observer notification of hardware faults and trace problems

Self-contained power supply

High density, fast charging internal batteries

- External power input offers scalable power options

VectorSeis & Field Station Unit

FireFly revolutionizes land seismic imaging as multiple technologies interact in entirely new ways. How geophysicists approach survey planning, station deployment, sources and source control, sensors, recording systems, and even processing and interpretation will all be quite different than in the cabled world. With FireFly, geophysicists will be able to identify subtle, shallow targets and deeper targets that may have been challenging to image with legacy seismic technology.

By supporting customized survey designs for multiple target depths and recording fully sampled, full-wave seismic data, FireFly will improve the frequency content and spatial sampling of the acquired data. In addition, irrespective of the number of stations deployed, FireFly can improve the productivity of land acquisition operations and minimize HSE risks, even in difficult terrain.

Better images. Improved productivity and HSE performance.
Imagine seismic that knows no bounds. With FireFly.

For more information, visit www.i-o.com/firefly

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