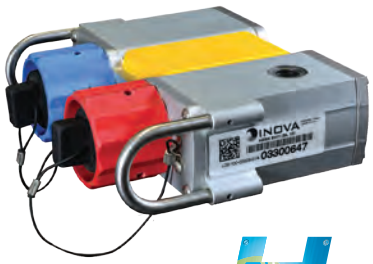
TOGETHER, WE GET THE JOB DONE.

INOVA

:: Hawk



Hawk - The ultimate autonomous nodal system. Engineered to be the most flexible and rugged recording system with unmatched wireless field QC tools for reliable, high quality data acquisition.

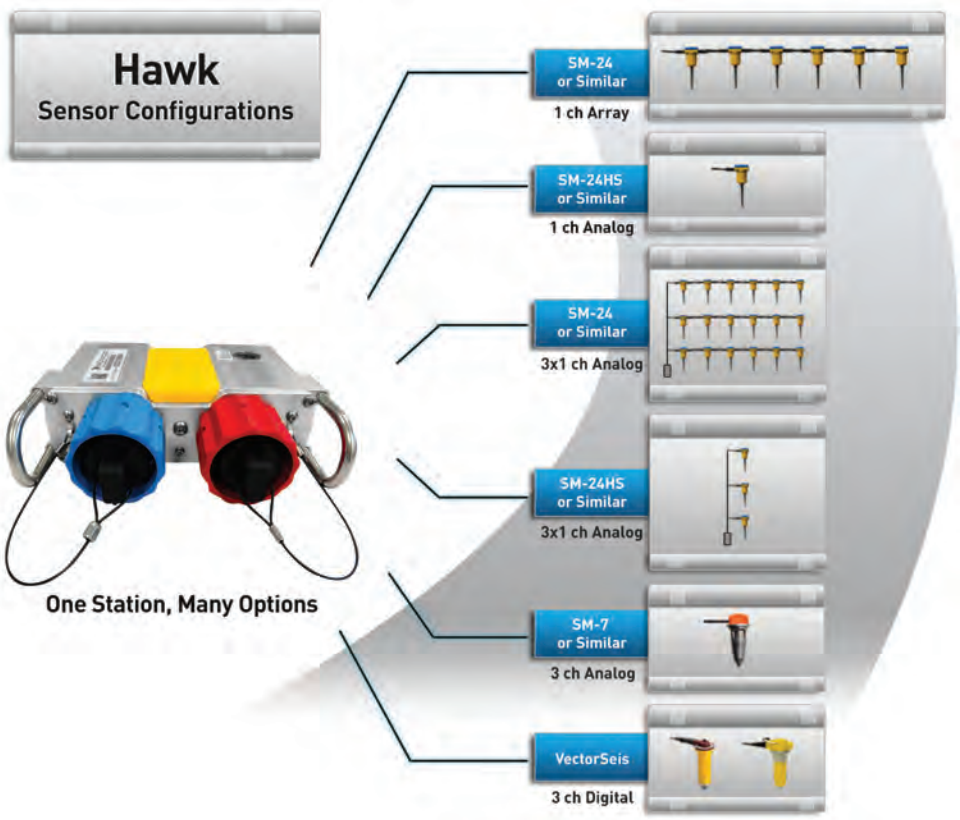
Each Hawk field station unit is engineered to store up to 16 GB of geophone or multicomponent VectorSeis data and supports continuous recording functionality.

Hawk SN11

INOVA's autonomous node offers a light, rugged and compact size that enables users to deploy equipment easily across challenging terrains and dense vegetation. Hawk's simple architecture does not require radio infrastructure. It can be utilized with existing acquisition systems, including cable-based systems, for increased target image coverage and for infill applications in difficult terrains. Hawk delivers reliable Bluetooth and Wi-Fi communication locally between the user and equipment to improve operations involving deployment, equipment status collection and field data harvesting with minimal power consumption. Constructed of aircraft grade aluminum alloy, the housing protects the ground station electronics from the rough handling of seismic field crews while continuing to function in the harshest terrains.

Unrivaled Sensor Flexibility

Each Hawk field station supports up to 3-channel analog geophones and 3-channel VectorSeis digital sensors to meet today's 2D, high-density 3D and continuous recording survey requirements. This multi-sensor support feature is exclusively offered with INOVA's Hawk system.



Unmatched Wireless QC

The Hawk System is built with wireless technologies and advanced QC tools that monitor the progress of data acquisition and provide crews with greater confidence in their data quality. Crews operating the Connex Field Harvest Tool or Connex FieldTool can gain visibility into the spread via Wi-Fi or Bluetooth telemetry without retrieving stations from the field. The Connex FieldTool is designed with short-range Bluetooth technology for communications with the field stations and allows field personnel to easily access the deployed Hawk stations. The longer-range, Wi-Fi enabled Field Harvest Tool can collect valuable QC and geophysical data by foot, by vehicle or by helicopter for even greater operational flexibility. Using these QC tools, crews can check the hardware status of the field stations, including its memory usage, battery voltage, GPS performance and sensor operations.

Faster Data Download

1.324 GB of data per shot. 336 FSUs. 8 GB raw data per FSU. Downloaded and imported in 30 minutes. That's fast.

The Hawk system's unique shot-based data retrieval capabilities reduce download times and data volume so there's faster turnaround time for equipment and a reduction in the number of stations needed to complete the job. Crews can plan daily operations to be more productive so that projects are completed on time and within budget. INOVA does it with state-of-the-art 10 Gigabit Ethernet technology, optimized transcriber download algorithms and scalable custom racks that can support up to 624 field stations.

Reduced Equipment Limitations

The Hawk autonomous nodal system is not constrained by cables and can accommodate complicated survey designs in challenging terrains. Traditional cable-based platforms rely heavily on survey designs that specify layout intervals corresponding to a basic set of standard cable lengths, whereas the Hawk system can economically scale and adapt to a variety of sensor spacing intervals.

Optimized Field Productivity

With integrated tools for stakeless surveying, Hawk offers efficiencies when laying out and designing high-density, 3D programs or simple 2D lines. Utilizing simplified infield navigation and positioning applications coupled with rugged handheld devices, crew personnel can easily deploy, troubleshoot and retrieve ground equipment and sensors using the Connex FieldTool with up to RTK accuracy. Drilling and vib crews can freely navigate to source locations using Connex Vib. Both, Connex FieldTool and Connex Vib, return valuable location information of actual sensor and SP/VP placement, which offers improved visibility and QC to source production operations.

INOVA's land acquisition equipment portfolio is engineered to maximize productivity and operational efficiency without sacrificing data integrity.

Hawk field stations, batteries and VectorSeis sensors can be placed in equipment bags and transported by helicopter to quickly reach receiver locations.

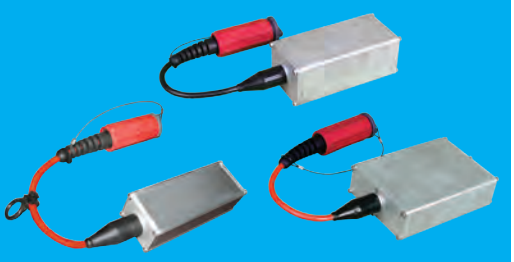
Connex FieldTool provides crew navigation and GPS positioning for equipment deployment and pick up, conducting infield troubleshooting and quickly moving from shot point to shot point.

Hawk, a simple yet powerful cableless system that maximizes operational efficiency through flexible layout and multi-sensor support options.

Minimize HSE Exposure

One of the many advantages to a cable-free recording system is that service providers can greatly reduce their HSE exposure with lightweight equipment that is convenient for crew members to carry, and decreases environmental impact on the surrounding ecosystem. With a small footprint, INOVA's cableless products are environmentally conscious, ideal for areas where developed infrastructure such as highways, roads, cities, farms, or producing oil and gas fields are present; or in areas where steep cliffs, foothills, and mountains might pose a significant challenge for cable-based systems.

With the integration of the Connex field operations management system, crews can quickly identify and avoid obstacles and exclusion areas of the survey to mitigate violations associated with entering permit restricted areas. Utilizing the Connex FieldTool and Vib devices with GPS navigation, crew personnel are notified if they are about to approach a hazard or exclusion area and will track all vehicle movement to ensure crew safety and compliance. Connex offers a variety of reporting capabilities to track daily operations including equipment deployment and retrieval and vehicle tracking to ensure HSE compliance.



Hawk utilizes external batteries that come in 96 WHr, 192 WHr or 288 WHr capacities.

For operational flexibility, the integrated field station electronics provide multiple channel configurations including 3-channel analog and 3-channel multicomponent digital support without the need for additional hardware.

Source-Driven Acquisition

Hawk supports source-driven dynamite and vibroseis acquisitions utilizing a seamlessly integrated Vib Pro encoder in the recording truck to rapidly transmit fire commands immediately when a shooter indicates a 'ready' status. A Fleet Tracking application provides operators visibility to vibrator locations which are displayed on a color-coded virtual spread map. In addition, observers can immediately track daily production utilizing one of the many integrated reports generated.

Hawk is ideal for areas where developed infrastructure such as highways, roads, cities, farms, or producing oil and gas fields are present; or environments where steep cliffs, dense forests and mountains might pose a significant challenge for cable-based systems.

Connex Operational Management System

The Hawk acquisition system can be used with the proprietary field operations management tool, Connex. Designed to efficiently streamline field processes that include navigation, planning, QC, and operational analysis, Connex provides intuitive and user-friendly software applications and rugged handheld field devices to optimize crew productivity throughout the acquisition lifecycle.

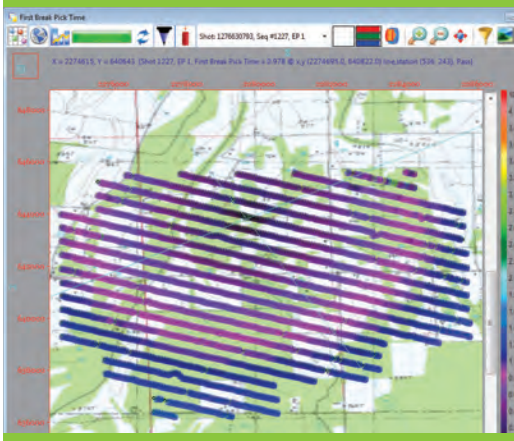
Connex includes:

- Connex Hub application running on a Microsoft® Windows® platform that includes field operations planning capability, synchronization with Connex FieldTool, Connex Field Harvest Tool and Connex Vib field equipment, operations QC and reporting

- Handheld and vehicle-based field devices used during stakeless surveying, equipment deployment and retrieval, vibroseis operations and dynamite operations, as well as shot-hole drilling

  Field devices include:

  - Optional compass and alignment pole for planting 3C VectorSeis sensors
  - Connex Vib in-cab computer and display for vibroseis navigation and fleet management
  - Connex FieldTool for equipment deployment and retrieval and infield troubleshooting and QC status
  - Connex Field Harvest Tool for field station QC status and seismic data collection
  - Connex FieldTool SmartPack for up to RTK grade stakeless surveying and navigation



Spatial displays and color-coded diagrams indicate spread health and source parameters for QC.

Crew member connecting the battery to a Hawk FSU during deployment at the receiver location.

Crews can gain visibility into the spread utilizing the Connex Field Harvest Tool via Wi-Fi telemetry.

Hawk System Components

- **Field Station Unit (FSU):** The Hawk FSU is designed to work without the need for radio communications. It acquires GPS signal for timing and communicates locally to the user through Bluetooth and Wi-Fi technology. The field units have 16 GB of local data storage and support geophones or multicomponent VectorSeis sensors.
- **External Batteries:** INOVA's purpose-built lithium ion battery packs are offered in 96 WHr, 192 WHr or 288 WHr capacity.
- **Racks:** The Hawk system's seismic data download and battery charging rack that is engineered for efficient handling of stations and batteries by staging crew personnel.
- **Central System:** The central system includes the Central System Computer (CSC), a ruggedized computer mounted in a shock-protected chassis. The CSC can also download and display the hardware status of Hawk's field stations from the portable Connex Field Harvest Tool. The INOVA Source Interface (ISI) provides digitization of up to six analog auxiliary channels for system QC, registration of shot times and generation of timing signals. The Vib Pro encoder is used to provide source control for both dynamite and vibroseis operations.
- **Transcriber:** The Transcriber is a complete data archive and QC computer that is available with Solid State Disk (SSD) RAID up to 12 TB and external RAID up to 132 TB for data storage. The Transcriber includes inventory management of ground electronics and geophysical data as well as QC functions.
- **Connex™ Command & Control:** Connex is a proprietary operational management tool consisting of software applications designed to efficiently streamline field processes including survey design, navigation, planning and QC. It comes with ruggedized handheld devices (Connex FieldTool, Connex Field Harvest Tool, SmartPack and Connex Vib) for use by crews on foot, in vehicles or by helicopter.

Tesla Exploration utilized INOVA's Hawk system to complete a cableless acquisition project in the dense hardwood forests, steep valleys and rolling hills of northern West Virginia.

Customer Care

At INOVA, we understand that downtime can be extremely costly during seismic operations. This is why we implemented customer care centers all around the world with field service engineers on staff in each region. Service calls are answered 24 hours a day, seven days a week to provide timely responses to our clients. Contact our **Customer Care Hotline** at +1.281.568.2002 or via email at **customer.support@inovageo.com**.

INOVA – TOGETHER, WE GET THE JOB DONE.

INOVA provides a complete portfolio of land acquisition equipment and services, including:

- Hawk® – cableless seismic acquisition platform
- G3i® HD and ARIES® II – cable-based seismic acquisition systems
- AHV-IV™ series, UNIVIB®, and UNIVIB® 2 – vibroseis source vehicles
- Vib Pro™ and Shot Pro™ II – vibroseis and dynamite source controllers
- AccuSeis™, VectorSeis®, and geophones – digital sensors and analog geophones
- Rental equipment services
- Training facilities and customer support worldwide

TOGETHER, WE GET THE JOB DONE.

It's not just a slogan: it's what we do. INOVA has evolved as a leader in the land seismic technology industry. We build the world's most flexible, rugged and reliable land seismic acquisition equipment. Our experienced engineering and customer support teams are empowered to develop solutions that ensure the quality and reliability of our equipment and the satisfaction of our customers. And now our unparalleled product reliability, innovation and field support allows the world's leading seismic crews to acquire high-quality data with equipment that is as hard working as they are and as tough as the operating environments they work in. At INOVA, we work hard and we work for your success. TOGETHER, WE GET THE JOB DONE.

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