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ION PRODUCTS

ARIES II



 **ARAM**
an ION company



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ARIES

SYSTEM

Designed and tested by seismic industry professionals, ARIES offers geophysical service providers a purpose-built system that meets the challenges of today's toughest acquisition environments.



ARAM Systems

Bringing more than 30 years of seismic industry expertise from data processing and field crew operations to recording system design and manufacturing, ARAM is the newest addition to the ION land systems portfolio. Built on a 'customer-first' philosophy, ARAM has established a reputation that leads the industry in customer service and product evolution. ARAM, now a subsidiary of ION, continues to lead the charge for customer-focused product development, providing impeccable service and product quality to geophysical service providers worldwide.

Since the 2000 introduction of the first ARIES land acquisition system, ARAM has given the seismic industry the most rugged and reliable equipment on the market. With more than 200 enhancements in system design, capacity and architecture, ARIES technology is field-proven and tough enough for the most challenging operating environments and climates.

Today, ARAM introduces ARIES II, our newest cable-based land acquisition system complete with the impeccable customer service and all the features of ARIES I you've come to know and trust, including:

- Programmable and upgradeable, rugged ground electronics
- Multi-path telemetry with variable transmission frequencies and data retrieval rates
- Highly intuitive system software
- The lowest power consumption of any system available on the market today



ARIES is a cable-based seismic recording system designed for use in all environments.

ARIES II

Capitalizing on more than eight years of research, development and field experience, we are proud to introduce ARIES II, our most robust and comprehensive cable-based acquisition system yet. With significant improvements in channel capacity, lower power consumption, even more reliable telemetry, and the industry's only QC package that offers real-time viewing of 10,000 live channels, ARIES II was developed on the field-proven technology that has made ARAM the seismic industry leader for rugged, reliable equipment. ARIES II provides contractors with an out-of-the-box, 24,000-channel, real-time recording system (at a 2ms sampling rate) capable of improving field productivity, reducing operational overhead, and optimizing crew efficiency. As the industry's most durable cable-based land acquisition system, ARIES II is ideal for harsh weather conditions, transition zone environments, and high-channel count surveys utilizing geophone arrays.



ARIES II supports real-time recording of up to 24,000 channels @ 2ms on a copper baseline, and up to 60,000 channels on a new fiber optic baseline.

Operational Flexibility

ARIES II can accommodate a variety of survey parameters in any climate and terrain and was designed to be rugged in order to survive the most punishing operations where durable equipment is critical to acquisition success. Now with the additional bandwidth to support high-channel count acquisition, ARIES II provides a scalable architecture for efficient 2D, complex 3D, and time-lapse 4D acquisition programs. Advanced vibroseis, dynamite, and air gun operating modes are all supported.

ARIES II can easily support transition zone operations for surveys in up to 75m water depths with the use of a proprietary marine case - a water-tight 'housing' that protects the battery and RAM unit from corrosive salt water damage. Contractors can utilize their existing ground equipment for transition zone acquisition, thereby reducing the capital overhead required for specialized TZ equipment and increasing ARIES equipment utilization.



ARIES II can accommodate any variety of survey parameters for operations in any climate and terrain.



ARIES systems can easily convert land ground electronics into a transition zone solution for surveying up to 75m deep with the use of a proprietary marine case.

ARIES



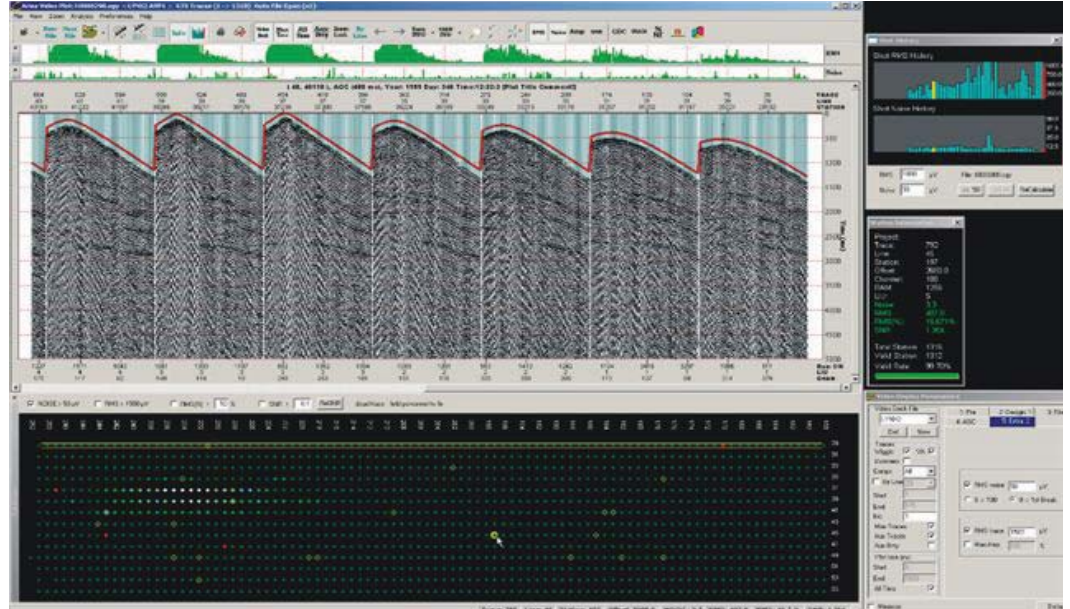
Built on the ARIES architectural platform, ARIES II provides:

- Twice the channel capacity
- Two times the processing power
- One-third lower power consumption
- Double the redundancies in data fail-safes



We believe your equipment should be durable, not disposable.

All ARIES ground electronics are crafted from stainless steel, aircraft grade aluminum and bullet-proof polycarbonates.



Even with 10,000 traces or more, contractors can QC data with 100% accuracy in less than a second. PatchView provides the seismic observer with all the tools needed to ensure end-user confidence in the real-time field QC process.

Advanced Quality Control - PatchView™

ARIES II comes complete with the industry's only real-time visual digital display for data quality control on mega-channel acquisition programs. Traditional seismic operations would utilize plotted subsets of data, or perhaps only plot every third or fourth shot to verify data quality, which is time consuming and inefficient. With PatchView, observers can quickly analyze seismic traces for a number of user-defined and scalable geophysical data parameters including:

- Ambient Noise
- Signal RMS
- Signal-to-Noise Ratio
- Adjacent Correlation

Using color-coded visual indicators to display 'pass/fail' relative to predefined parameters, the observer can easily QC 10,000 live channels of data with 100% accuracy. A simple mouse click on the QC indicator displays the associated time domain seismic data. In addition, observers receive the QC status of the ground electronics and geophones, resulting in efficient in-field troubleshooting.

Intuitive Software

ARIES II provides user-friendly software that can display QC data in a spatially correct map with a representation of the terrain and geographical space of the operating environment. This gives the observer comprehensive visual indications of survey obstacles, areas of increased noise, and environmentally sensitive locations - simplifying in-field troubleshooting and crew coordination.

ARIES II's automated network load balancing, transmission speed detection, and retrieval rate adjustment represent a step-function improvement in operational efficiency. Each of these features simplifies the system deployment process and reduces power consumption by adjusting to varying cable lengths and spread configurations. Transmitting data at up to 12Mbps, ARIES II dynamically detects and adjusts transmission rates as necessary, allowing maximization of channel capabilities.

Enhanced Productivity

ARIES II utilizes on-board memory to secure data at the point of digitization. In the event of total telemetry failure (due to cut cable or accidental disconnect, for example), the RAM will complete the shot record and store data in memory until reconnected, at which point the ARIES central system will automatically download all stored data.

In addition, ARIES II provides the industry's best static suppression, utilizing three stages of large voltage protection, ensuring data accuracy and recovery for operations in areas with power transmission lines or radio towers, and environments with lightning or



EQUIPMENT RENTAL

ARAM provides the industry's only global, OEM-direct rental equipment pool with strategic locations around the world.

ARAM provides the ultimate in reliability - featuring the latest technology and equipment. All rental equipment is furnished in as-new condition with ARAM provided maintenance and repairs.

Whether buying or renting, you will receive ARAM's world-class support and field service, directly from ARAM.



ARIES II accommodates advanced vibroseis operations including GPS-Enabled Source Driven, VSR, HFVS and Flip-Flop.

atmospheric static. A robust telemetry protocol and enhanced Common Mode Rejection Ratio make the system the most reliable in the presence of high-level, broad-spectrum, CMR noise.

For future productivity enhancements, ARIES II provides an easy solution for upgrades to ground electronics with the industry's first programmable firmware via RS232. With ARIES II, this can be done from the Central Recording System via the line cable to dramatically decrease the amount of time necessary to complete individual upgrades.

ARIES



ARIES provides the most rugged, durable, and lightest-weight cables in the industry - 360kg tensile strength, a 54:1 ratio to weight.



ARIES II Line Tap Unit (LTU) combines both RAM and Tap capabilities with eight channels of digitization capacity and advanced cross line functions, resulting in fewer pieces of line equipment and fewer batteries.

Reduced Power Consumption

ARIES II minimizes or eliminates the logistical impact of batteries on crew operations by utilizing 12-AmpHour lead acid batteries designed to deliver power throughout the deployment cycle of a RAM. With the industry's lowest power consumption per channel at 205 mW (typical), ARIES II will dramatically extend battery life by 50% to 160 hours, creating opportunities for increased field productivity.

While traditional systems use full power when the ground electronics are connected, ARIES II active power consumption varies according to the amount of telemetry data each RAM is transmitting from downstream RAMs, essentially conserving power until required by the acquisition.



With the industry's lowest power consumption per channel, ARIES II dramatically extends battery life by 50% - 160 hours.

Customer Service

ARAM has the industry's best reputation for product support and will continue to uphold these high standards of customer service. Available 24 hours a day, seven days a week, we are committed to our client's success. For technical support, please contact 1.403.537.2160 or aramsupport@iongeo.com.

About ION

ION is a leading provider of geophysical technology, services, and solutions for the global oil & gas industry. ION's offerings allow E&P operators to obtain higher resolution images of the subsurface to reduce the risk of exploration and reservoir development, and enable seismic contractors to acquire geophysical data more efficiently. Additional information about ION is available at www.iongeo.com.

ION Land Acquisition Technology

ION provides a complete portfolio of land acquisition equipment, including:

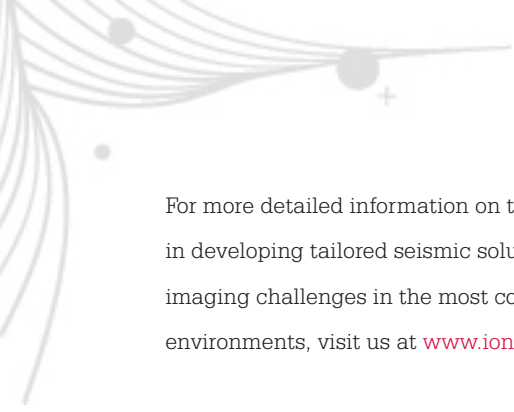
- Cableless and cable-based recording systems
- Track and tire-based vibrators
- Dynamite and vibroseis source controllers
- Geophones and MEMs-based digital sensors

[OUR MISSION]

Through ongoing research and development programs and strategic acquisitions, ION has assembled a comprehensive technology toolkit that spans the entire seismic workflow. The ION family of companies provides game-changing acquisition equipment, software, planning and imaging services, and seismic data libraries to the global oil & gas industry.

ION takes pride in its innovation legacy. As pressures on the E&P industry build, ION and the people who are part of it accept the challenge of developing the breakthroughs of tomorrow and doing their part to find the resources that will provide heat, light, and mobility to the citizens of the world.





For more detailed information on the industry leader
in developing tailored seismic solutions that address
imaging challenges in the most complex acquisition
environments, visit us at www.iongeo.com/aram



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