



ARIES II FEATURES

- Increased channel capacity.
- Lower power consumption.
- Double the redundancies and data failsafes.

In 2008 we introduced a sweeping package of upgrades, changes and modifications to our ground electronics, central systems and software. Built from and on the ARIES architectural platform, ARIES II brings a improvement in capabilities to an already fully featured product.

	ARIES	ARIES II
Capacity on Demand:	Not available	Automatic
ARIES II's software takes the issue of system capacity to new levels. By monitoring the line transmission rate, transmission port loads, and the required capacity to retrieve the current live spread, ARIES II will automatically balance the transmission loads, reroute around damaged wires, and even turn on near-real time retrieval features to ensure the seismic crews has the capacity it needs when it most needs it. "Capacity on demand" allows the system to increase its live station recording capacity to well over 100,000.		
Power Consumption:	280mW / channel (RAM typical) 4.25W (LTU typical)	170mW/ channel (RAM typical) 3.4W including 8 channels (LTU typical)

As with many ARIES features, power consumption figures are dynamic; meaning they change according to a number of variables, such as transmission rate, transmission power, sample rates, duty cycle, etc.. The "typical" power consumption quoted in our specifications is calculated as the average per channel power consumption on a 5,000-channel live spread, acquiring data at 2-ms. When comparing ARIES and ARIES II power consumption figures to competitive systems, it is important to remember that most competitor's do not include the power consumption of the power conditioning unit or cable transmission loss in their per-channel figures, because these too are dynamic variables, longer cables or more line-powered units increases power losses. Doing so would yield an "all-in" average power consumption of nearly 250mW/ channel on a competitive system that may specify only 130mW / channel at the channel. ARIES II 's "all-in" average power consumption is 205mW/channel.

Batteries (12-AmpHour Lead Acid):	100-Hours	160-Hours
Since battery deployment is essentially free from logistical cost when conducted at the same time as RAM & cable deployment (and, similarly, when retrieved) the ARIES battery was designed to deliver power throughout the deployment cycle. ARIES II's dramatically lower power consumption extends the battery's life span by 50%. When comparing ARIES II's power delivery system to competitive systems do bear in mind that, under normal circumstances, the logistical operations involved in live battery replacement are non-existent. Regardless of the number of batteries, then, the ARIES II promises a reduction in battery management costs.		

LTU / Baseline Capacity:	4,800 channels	6,000 channels
Users will be very pleased to note, however, that while ARIES' 4,800 channel baseline was the maximum capacity, ARIES II's 6,000 channel baseline represents the minimum capacity, in real-time, at an uncompressed 2-ms sample rate. The ARIES II LTU's also include 8 digitizing channels so that they can be used in place of a RAM at R-Line Cross-Line intersections saving on equipment and simplifying layout. The ARIES II baseline includes capacity optimizing technologies; automatically optimizing telemetry packing, routing telemetry around damaged cable sections, auto-detecting and dynamically adjusting to telemetry rates.		

Max Channels per R-Line:	1,200	2,400
Specified at 2ms sample rate, over 55 meter take-out intervals. ARIES II takes advantage of four, fully-redundant telemetry pairs, while ARIES utilized two. This effectively doubles ARIES II capacity and outreach length on a single receiver line.		

System Capacity:	19,200 channels	24,000 channels
ARIES II's 24,000 channels is the minimum specification, at 2ms sample rate over 55 meter take-out intervals and optional 4-baseline configuration. ARIES II system channel capacity, however, is a function of baseline capacity, number of allowable baselines and may be extended through the utilization of any number of data management techniques available. Utilizing Nyquist-based lossless compression and near-real-time retrieval, the system's capacity may reach a theoretical maximum in excess of half a million channels.		

ARIES vs. ARIES II COMPARISON

ARIES

ARIES II

Max Transmission Speed:

9 Mbps

12 Mbps

ARIES line equipment can be programmed for a variety of transmission rates; this allowed the maximization of capabilities under a number of different circumstances. ARIES II has the added feature of being able to reprogram the transmission rates from the central recording system.

Programmable firmware:

RS232

In Field (via line cable)

ARIES RAMs offered programmable firmware for upgrading field equipment with new features and capabilities. ARIES II improves on this feature by providing firmware programming in the field, from the Central Recording System rather than through a RS232 connection.

Cable Strength:Weight ratio:

45:1

54:1

Cables are simultaneously the heaviest and most vulnerable component in a cable-based seismic system, ARAM is pleased that their cable development program has yielded a product that not only sets the standards for light weight and durability, it shatters them.

Shot Memory:

ARIES and ARIES II utilize 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; storing data in memory until reconnected; at which point the ARIES central system will automatically download all stored data.