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Traffic and Transportation Success

Alpha Keeps the Traffic Moving

More than ever, power loss at traffic intersections is becoming a key topic of conversations with the federal, municipal and town managers responsible for maintaining reliable road transportation systems.

Last August's Northeast power outage caught millions by surprise, and precipitated some of the worst traffic congestion in recent memory. Power disturbances of any scale can have far reaching consequences, and create hazardous situations for pedestrians, motorists and the general public.

Since backing up its first intersection in 1991, Alpha has lead the industry with more than 6,000 UPS systems installed in intersections throughout

"Alpha has lead the industry with more than 6,000 UPS systems installed"

North America. As more intersections are being converted to LED from incandescent lights, power consumption drops nearly 85%. This power reduction makes UPS systems a far more affordable and attractive component for today's traffic intersection.



Alpha's rugged, Novus™ Outdoor Power System provides the customer's LED intersections with a wide variety of run-times for full intersection operation and/or additional backup times in red flash mode. Normal power requirements for an eight phase intersection include full intersection operation for two hours, and an additional two hours in red flash mode. Alpha's Novus products can communicate through the customer's ITS systems and support remote video detection or data collection.

Features of a typical outdoor traffic UPS system include a Novus power module,

a string of AlphaCell™ batteries, and bypass switches. These components can be installed into an existing traffic enclosure or retrofit on the back of an existing enclosure with an Alpha Systems Side Module (SSM), Battery Side Module (BSM) or in a variety of stand alone enclosures and vaults.



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Transportation Security

Since 9/11, security has become one of the most enduring topics of discussion in homes and businesses across the United States. As a result, all levels of government have dramatically increased spending on security related applications. For example, this January, the US Federal Government awarded more than 180 million dollars in grants to US airports, seaports and border areas for security related projects.

To address the opportunities this kind of spending creates, Alpha has segmented the US security market into four main categories: **Communications, Surveillance, Access Control and Physical Enhancements.**

Communications, the largest category, includes computer, wireless, command & control, and computer network applications. The primary indoor product lines installed for these applications include the ALI Plus, Pinnacle and CFR. The Novus XT System is normally installed for outdoor communication powering requirements.

For the **Surveillance** sector, Alpha has recently been awarded back-up

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A Message From The Boardroom

When we sell products and services, we are also selling our expertise. To be recognized as an expert by a customer significantly increases the value we bring to the relationship, enhances customer retention and serves as a key driver for future growth and success.

How do we best present our expertise? One answer is to focus an organization around the concept of being a recognized authority on a particular subject.

On this theme, we have positioned cer-

tain Alpha Group member companies as Centers of Excellence. This term has been applied to the following member organizations:

- **Alpha Technologies Ltd.** (Burnaby, BC) for AC, including single and three-phase AC UPS and associated battery products.
- **Argus Technologies Ltd.** (Burnaby, BC) for communication grade DC power products, including rectifiers, converters, controllers, telecom batteries and accessories.

- **The Alpha Group** (Bellingham, WA, and Limassol, Cyprus) for cable television/broadband powering, including power supplies, enclosures, status monitoring, batteries and other related accessories and services.
- **Altair Energy** (Golden, CO) for alternative and distributed energy solutions, with a near-term emphasis on Photovoltaic panels, inverters, mounting systems, and installation services.
- **MTI Technologies** (Bellingham, WA) for industrial batteries, charger and large scale UPS systems.

From a tactical point of view, a Center of Excellence should be viewed as the "go-to" organization for answers concerning product performance, pricing, engineering, service, and availability issues.

Ultimately, an Alpha Group Center of Excellence is the "resident expert" to both internal and external stakeholders and greatly assists in the achievement of our common goals.

— Fred, Grace, Warren, Dylan, and Lynda

From the Executive Editor

The AC Alternative

In the last issue, we discussed the merits of Direct Current (DC) powering, and what The Alpha Group has to offer in this area — primarily through Argus Technologies. For this issue, the theme is DC's alter ego Alternating Current (AC), with a focus on Alpha Technologies.

In terms of electrical engineering history, AC is the new kid on the block. Whereas DC has existed in various forms for centuries, AC only came to prominence in the late 1890s through the efforts of a Croatian genius named Nikola Tesla.

In the early 1880s, Tesla began working with the Continental Edison Company in Paris. Eventually, he moved to New York to work for Thomas Edison himself, who fearing a threat to his DC Empire, scorned Tesla's AC theories which led to some dark times for this brilliant European engineer. Tesla ultimately found salvation in the form of Mr. George Westinghouse and the rest, as they say, is history.

For The Alpha Group, and more specifically Alpha Technologies, AC technology represents the cornerstone of the business, from Alpha's inception in the seventies. Today, we continue to push the boundaries of AC technology, and where it can be applied. In this issue, we will provide you with a number of examples.

The next time you flick on a light switch, give a thought to the relatively unknown father of AC – Nikola Tesla.



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Please send all of your comments & suggestions to editor@argus.ca

DID YOU KNOW?

The very first traffic light was installed at a busy London, England, intersection in 1868, to separate horse drawn carriages from pedestrians.

Novus Series

Novus Micro



Alpha's Novus Micro, a "one-box" outdoor UPS solution, was developed to meet powering needs at picocell and microcell stations for the Chinese wireless market. This unit is also receiving favorable reviews from security administrators and telecommunications technicians who find the Micro a compact and attractive solution that meets their demands for clean and reliable backup power.

This durable, outdoor powering solution provides 300VA/300W 24VAC or 120VAC output. Its intelligent buck and boost feature increases the input voltage range to 80-150VAC to provide stable output during low or high line voltage conditions while preserving the batteries. Standard features include LED display for status monitoring, flexible mounting options for pole or wall mount configurations, and an optional cold weather kit.

Novus XT Tower



The Novus XT Tower provides critical backup power for a wide range of outdoor applications in a number of markets, including security, communications, access control, and traffic control. The weather resistant enclosure houses a scalable power module tray, accommodating six different power models, with outputs ranging from 300-2200VA.

Additionally, a variety of different batteries can be installed in this esthetically pleasing unit, making the XT Tower a truly modular UPS solution. Standard features include a temperature controlled fan, 19" rack mounting hardware for UPS modules and limited customer equipment, optional manual bypass switch, and/or an optional automatic bypass switch. The XT Tower standard mounting configuration includes a universal bracket for pole, wall, and host mounting configurations.



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Alpha Group AC Center of Excellence

As the Alpha Group AC Center of Excellence, Alpha Technologies Ltd. (ATL), provides leadership and assistance to solve customers' powering needs and create a technology road map for customer driven emerging AC powering opportunities. This can only be achieved by creating a company wide focus as exemplified in our mission statement:



Victor Goncalves explains the inner workings of a plug power fuel cell at the January sales meeting.

"To be the leading supplier of high engineering value added power solutions, cost-effective power products and superior customer service, targeted to serve select high growth focused global market segments that have a need for our unique expertise and skills."

To achieve our mission, we segregate our goals into attainable objectives. To reach the pinnacle of AC UPS achievement, ATL strives for distinction in three areas: commercial know-how, leading edge technologies/applications, and employees/communication. Becoming a true Center of Excellence requires:

Commercial Excellence – Understand your business and target markets

- Know what we need to win
- Is the business case sound, and does it fit corporate goals
- Create strong strategic partner and vendor relationships
- Plan strategically – five year windows
- Prepare to license technology if necessary
- Protect our intellectual property and trade secrets
- Aggressively manage the product lifecycle – from cradle to grave

Technology Excellence – Know today's applications and tomorrow's technologies

- Enable hardware and software design, with extensive validation
- Maintain effective manufacturing strategies and quality processes
- Target system applications and offer ongoing support
- Facilitate field service and maintenance

Employees and Communications Excellence – Listen, learn, communicate and act

- Encourage outward and inward communication – at market, group, and personnel levels
- Interact with all Alpha Group Centers of Excellence
 - Support and train our customers
 - Continually develop new skills and capabilities with our personnel



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Transportation Security continued from page 1

powering contracts for two West coast marine facilities. In these applications, the Novus Micro, Novus XT Tower and the Novus II will be providing critical back-up power to surveillance cameras and security lighting throughout each installation.

Alpha has been servicing the **Access Control** market for over 20 years. Typical applications include gate and barrier arms, identification and recognition systems. The Novus II, XT Tower and Micro Series provide highly cost-effective answers.

The **Physical Enhancements** category includes applications that apply to screening and detection equipment, fencing and physical barriers. These indoor and outdoor applications normally require small power consumption. Many of these applications are being powered by Alpha's ALI Plus, Pinnacle, and Novus Series.

In the future, Alpha, along with other members of The Alpha Group, will continue broadening their product range to include more AC, DC and Photovoltaic solutions to further expand their presence in the security market.



Renee Lane, Alpha Technologies, Inc.
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Powerful Profiles

an Interview with Frank Albano



Frank Albano, VP ICG
Alpha Technologies, Inc.

What is your job description?

Managing sales for Alpha's Industrial, Commercial and Government (ICG) division and MTI.

What is a recent accomplishment?

The new Novus 300 products were recently deployed at a port in CA to backup surveillance equipment. Our Novus XT Tower is being used to backup a new mobile security barrier at a nuclear facility on the East Coast.

What is the biggest risk you've ever taken?

Moving 3,000 miles across the US and taking on the National Sales Manager position eight years ago for Alpha's CPS group and knowing the challenges that were ahead of me. This was a risk well taken.

What has been the most valuable advice given to you in your career?

Concentrate on things that you can make a difference in and do not dwell on things that are out of your control. But, above all, treat others as you want to be treated.

Where were you born and raised?

I was born in a small town in Italy and came to the US when I was very young (no, not at the turn of the century). I was raised in New York City and later on moved to New Jersey.

What is your educational background?

I have a Bachelor's of Science degree in Electrical Engineering and I'm also a graduate of the "school of hard knocks".

Family life?

I have been married just over six months to my beautiful wife Nomi and have four wonderful children: Deanna, Alissa, Jill, and the other male of the household, Lee. The males are outnumbered and we never win an argument.

Hobbies?

I love to cook, play sports, and listen to jazz, classic rock, and opera. I have also started to write my book.

Words to live by?

You get out of life what you put into it; little effort gets you little results.

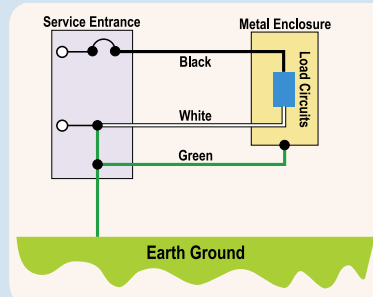
DID YOU KNOW?

Alpha backed up its first traffic signal in 1991 and the UPS is still in operation today providing clean power to an intersection near the Canada/US border.

AC101: The Importance of Grounding

The primary goal of the safety ground in electrical equipment is to protect operators from accidental electrical shock. The secondary goal is to provide effective lightning protection to prevent damage to electrical equipment.

Grounding provides a low-resistance path from electrical equipment to the earth. As a rule, the grounding circuit is not meant to carry any type of current except for rare occasions when there is a short circuit, and in those instances, it is carried only momentarily. Meeting safety requirements is achieved by bonding all equipment cabinets to the power company ground with low resistance conductors and adequate current carrying capacity. A short circuit will blow the fuses or open the circuit breakers. In a standard 3-wire single-phase AC power system, the white wire is earth-grounded at the service entrance.



If a load circuit has a metal enclosure or chassis and the black wire develops a short to the enclosure, there is a shock hazard to operating personnel if the enclosure is not also earth-grounded. If the enclosure is earth-grounded, then a short results in a blown fuse or tripped circuit breaker instead of creating a "hot" enclosure. Thus grounding is implemented to ensure rapid clearing of faults and to prevent hazardous voltage. This reduces the risk of fires and injuries.

Without a properly grounded electrical system, surge protectors will not perform their function. Proper grounding is important because it provides the path for the surge protector to divert most types of power surges. Surge protectors remain dormant until a surge occurs. When they sense excessive voltage, they momentarily switch the spiked line(s) to a direct or indirect earth ground.

Regardless of the quality of the surge suppressors used, the level of lightning protection will be as good as the quality of the grounding system. Lightning attempts to reach the earth and the job of the surge suppressor is to give it a quick and easy route to the ground.



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The Alpha Group Product Source Guide



Cable TV Outside Plant, Headend & Fiber Powering		Power Supplies: Standby, Non-standby Enclosures: Pole Mount, Ground Mount and Underground Vaults Batteries: VRLA, Gel Lead Acid Generator Systems: Curbside, Portable Indoor AC UPS: Single & 3-Phase Fiber: Power Supplies, Enclosures
Indoor/Outdoor AC UPS for Traffic, Medical, Access Control & Public Security		Indoor AC UPS: Single & 3-Phase Outdoor AC UPS: Single Phase, Systems Other: Medical Bypass Switches, Intelligent Power Sequencers, Redundant Control Switches & Remote Monitoring
Communication Grade DC Power		Rectifiers DC-DC Converters Power Systems: Small, medium and large: custom and standard systems Supervisory Panels Distribution Centers Enclosures: Modular, Battery, and Power System Cabinets Batteries
Communication DC Power For Developing Markets		Rectifiers Controllers Inverters Distribution & Batteries.
Alternative/Distributed Energy Solutions		Photovoltaic: PV Modules/Panels, Inverters, Racking, Charge Controllers, Batteries, Wiring and Installation Fuel Cell: Supply, Installation & maintenance.
Industrial Powering Solutions		Battery Chargers Batteries: VRLA, Gel Lead Acid, Flat Plate, Nickel Cadmium Industrial UPS Systems
Contract/Outsource Manufacturing Services		Services: Mechanical & Magnetics Design and Engineering, Full Service CNC Sheet Metal Fabrication, Electrostatic Powdercoat Painting, System Assembly, Integration & Test.

Quick Notes

Cable Power Supply Family Expands

Alpha enhances the international cable television non-standby power supply family with the addition of the APX2. This unit offers conditioned power to signal amplifiers in cable television and broadband distribution systems. Debuted at the CSTB show in Moscow, Russia, February 10-12, 2004, the APX2 is available in 8A and 15A versions complete with a full one-year warranty. Expect to see more information about the APX2 in upcoming issues of the Power Connection.



MTI Leads the Field

For three years in a row, MTI has continued to enhance its position as the leading provider of powering solutions for General Electric's turbine division. MTI provides large scale battery chargers for GE gas and combined cycle turbines. Hundreds of MTI systems have now been installed alongside GE power generation turbines around the world. Each installed system comprises a MTI P-45 industrial battery charger and a string of Alpha OPzS-600 flooded lead acid tubular plate batteries.

Get your copy of the Product Source Guide at <http://www.argus.ca/powerconnection/guide.html>

the Circuit

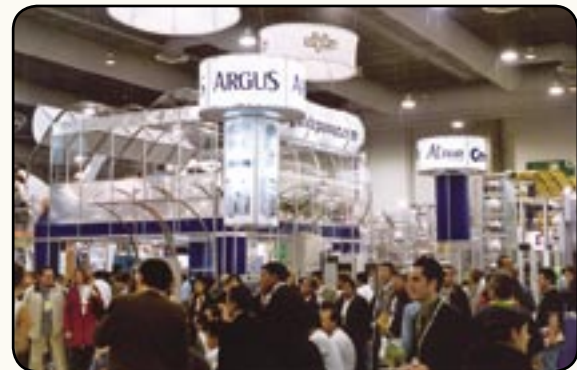
Stay informed about Alpha Group events

Strengthening Our Team

This year's Alpha and Argus US sales meetings (with several international participants) were held jointly, in Bellingham, WA, and Burnaby, BC, from January 15-18. Participants from Alpha, Argus, MTI, and Altair Energy deemed the three days of intensive product training and team building exercises a tremendous success. The venues allowed the various sales forces to learn about a range of new Alpha Group products, receive hands on training, and sit down face-to-face to discuss future opportunities and sales strategies.



Sales meeting participants outside Alpha's Bellingham office.



Alpha Group booth at ExpoComm Mexico.

Shining at ExpoComm Mexico

The ExpoComm Mexico show, held February 10-13 in Mexico City, was a huge success with higher than expected attendance. Products representing all Alpha Group members were on display and attendees and distributors were impressed with the range of capabilities and expertise. Bryan Locker, Argus Senior Vice President International Sales, reports he expects significant growth in our Latin American markets, and feels the buzz at this year's show demonstrates the huge potential of this region.

AlphaBits...

Dr. Sunil Akre will be joining Alpha Technologies Ltd. as Senior Electrical Design Engineer on April 1, 2004. With a BEng. in Electronics and Telecommunications, and a Ph.D. in Electrical Engineering, Sunil has 15 years of power supply design experience from companies such as Siemens, AG, and Artesyn Technologies. Sunil will be moving to British Columbia, Canada, from Ireland with his wife and two children.

Frank Albano's ICG group in Bellingham, WA, recently scored a big success with the award of a contract to provide backup power products for security equipment at strategic transportation facilities in the US. Products involved in the deal include Alpha's Novus II, Micro 300, XT Tower, XT PWE-4 1000, and Pinnacle 2kVAs. "This award is an endorsement for the efforts of our sales teams in developing new markets for Alpha's comprehensive line of commercial outdoor AC UPS

products," commented Frank Albano, Vice President, ICG Sales for Alpha Technologies Inc.

Alpha power systems performed flawlessly for a major broadband communications provider during a three hour power outage in Orange County, CA, on February 29, 2004. Ten Alpha power nodes containing twenty-six XM2 power supplies transferred to backup power seamlessly.

Powerful Profiles

an Interview with John Lee



John Lee, Vice President & General Manager
Alpha Technologies Ltd.

What is your job description?

Long-term strategic vision, day-to-day management, and board member of Alpha Technologies Ltd.

What is a recent accomplishment?

Completion of the Novus family of Outdoor UPS's. This time next year it will be the success of our major thrust to promote Alpha's AC products in the world's international marketplace.

What is the biggest risk you've ever taken?

Developing a whole new control system and topology for the Solaris XP for the alternative energy market.

What has been the most valuable advice given to you in your career?

Think, act, and what you get out is directly proportional to what you put in.

Where were you born and raised?

I was born in Saskatchewan, Canada, and as the son of an RCMP officer, moved all over the province with his work. I went to high school and university in Vancouver, BC. Overall, work and play have taken me to 9 provinces, 35 states, and 50 countries.

What is your educational background?

Degrees in Engineering and Commerce (Business Administration).

Family life?

I have been married to Vicki for 9 years. We have two fabulous daughters, Nicole (Coco) age 4, Julia, age 2, and three Siamese cats.

Hobbies?

Anything I can build — automotive, wood, metal and electrical.

Words to live by?

Your job is not done until your customer is happy.

DID YOU KNOW?

Today cable television boasts more than 64 million household subscribers in the US.

WATTS NEW?

Visit Alpha Group websites for more information.

Canitec
Veracruz, México
March 31-April 1, 2004

ISC West
Las Vegas, Nevada
March 31-April 2, 2004

PTCA Philippines Cable Show
Mandaluyong City, Philippines
March 31-April 2, 2004

RCA
Las Vegas, Nevada
April 14-15, 2004

Graybar National Show
Dallas, Texas
April 14-17, 2004

ExpoComm Canada
Toronto, Ontario
May 4-5, 2004

ANGA Cable 2004
Cologne, Germany
May 11-13, 2004

SVIAZ Expo
Moscow, Russia
May 11-15, 2004

Cable-Tec Expo
Orlando, Florida
June 16-18, 2004

Supercomm
Chicago, Illinois
June 22-24, 2004

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Submissions may be revised for clarity and length.

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