

# Evolution

Magnetek Material Handling

ISSUE 40

Fall 2005

## Magnetek's a beacon in the night for The Port Condo and Marina

*Automation provides the solution for the nation's first residential and dry-dock storage facility.*

Boat owners in Fort Lauderdale will be cruising in paradise once The Port Condominiums and Marina are complete this Fall! In an effort to capitalize on the limited



*The Port Condominiums and Marina is a major draw for water lovers. It's close to the ocean, downtown and airport.*

space and high demand for boat storage in the area, Fort Lauderdale-based developer Everglades LLC designed the nation's first residential and dry dock storage condominiums. The 129-unit luxury residence and marina, one of the very last waterfront opportunities of its kind in the area, is a major draw for water lovers. The Port Condominiums will offer residents upscale amenities and spacious floor plans. In addition, the owners will have the option to purchase an adjacent "boat condo" for their vessel. The boat condo is a climate controlled, concrete dry storage marina,

designed to withstand a Category 4 hurricane.

What else is so special about this development? The marina's unique bridge crane with boat cradle and racking system. It can accommodate 125 boats, up to 52 feet in length and up to 35,000 pounds. The Port's system will lift one boat at a time, either manually or automatically from the water, through an automated boat wash, to selected storage locations and back. When boat owners are "ready to cruise" they can call ahead to the adjacent marina, and in just minutes, their boats will be fueled and in the water.

**Continued Page 2**

## Coming Soon!

Monitor your IMPULSE drive wirelessly from your PC

Monitor your drive's status from the comfort of your chair with Magnetek's Electromotive Systems IMPULSE® LINK 4.1 Wireless Diagnostic System. The Windows-based, interactive drive software and hardware package allows you to efficiently program, monitor and troubleshoot your IMPULSE® G+/VG+ Series 2 and 3 Drives. Set to release in Winter 2005, you can provide your customers with improved overall service with this advanced diagnostics system. It allows you to service your own equipment more quickly and easily.

- Program, monitor and troubleshoot IMPULSE Drives from your desk, the plant floor or another location.
- E-mail parameter files, modified constants, and DataLogger files for troubleshooting assistance.
- The software will provide you with full drive parameter descriptions and troubleshooting assistance. No need to search for your manual.

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## Automation—Port Condo and Marina

### Storage Capacity is an Issue

Developing the boat storage and loading/unloading system for The Port Condominium and Marina wasn't always smooth sailing. Everglades' original plan relied on a forklift truck to place and remove boats from predetermined slips. The slips had to be spaced far enough apart to allow the trucks to maneuver between them. The wide aisles required for forklift truck travel resulted in a great deal of wasted space. This method would only allow for storage of approximately 80 boats. Everglades needed another method to increase boat storage capacity.

### Bridge Crane with Rack System Provides Solution

Everglades contacted Maffett Architecture & Engineering, and in a joint effort with Crane America Services and Magnetek, designed the unique bridge crane with boat cradle and racking system. It's similar to the heavy-duty bridge crane lift systems used to load cargo containers. Maffett Architecture & Engineering designed the boat cradle, while Crane America Services designed the crane. Magnetek designed all the controls and automation software plus performed installation and start-up services needed to move and store boats in the marina.

The new automated marina storage retrieval design eliminates the need for forklift trucks to pass through the aisles, allowing boats to be placed closer together, reducing the amount of floor space needed for storage. Now up to 125 boats can be stored or moved in and out of the facility quickly and easily.

The automated boat storage facility contains an overhead crane that travels down an aisle between rack structures. It will manually or automatically lift one boat at a time from the water and through a wash station, then to a selected storage location, i.e. its "boat condo." The crane also moves boats from their berths to the water. They are stored in racks, perpendicular to the aisle, inside an enclosed building. It's positioned partly over the water where there is one pier location for boat pickup and dropoff.

### Magnetek Designs a State-of-the-Art Manual and Automated Control System

Crane America Services contacted Magnetek, the premier provider of innovative power control and delivery solutions to the material handling industry, to design the manual and automated control

#### Port Marina Control System

Electromotive IMPULSE®•VG+ Series 2 Vector Drive—controls the hoist motion

Electromotive IMPULSE®•G+ Series 2 Adjustable Frequency Drives—controls the bridge, trolley and rotate motions

Telemotive *telePilot*™ Hand-held Radio Transmitter—provides manual backup control of the hoist, trolley, bridge and rotate functions of the crane

Electromotive Systems' Runway and Trolley Festoon—power and control signal wiring between the control enclosure and the crane

A Programmable Logic Controller (PLC)—main controller of the crane system

Human Machine Interface (HMI)—touch screen interface used to enter data and receive feedback and fault information

system for the project. A team from Magnetek, considered to be some of the top development and application engineers in the industry, met with Everglades, Maffett and Crane America Services. After extensive interviews regarding system needs and functions, as well as analysis of drawings, technical data and the sequence of operation, the team developed and proposed a control solution that met their needs and budget. This same team then designed the complete system and programmed the software automating the entire storage-retrieval process. The team then supervised in-house testing and performed the field startup at The Port, ensuring the system met required specifications and functionality.

At Magnetek, customers are not passed from one department to another. As in The Port

Marina project, a dedicated team of engineers is assigned to each project, handling all the details and making sure all specifications are met within budget and timeline. It's that kind of personal attention, coupled with second-to-none industry application expertise, that sets Magnetek Material Handling apart.

### Increased Storage Capacity and Retrieval Efficiency

By eliminating the need for forklift trucks to pass through the aisles, the slips at The Port Marina could be placed closer together, almost doubling the storage capacity. According to David Strait, Magnetek's Southeast Regional Sales Representative who was integrally involved in The Port Marina project, many customers have found that automating their storage and retrieval process has increased efficiency and better utilization of space.

Magnetek's sales representatives can provide the automation expertise and guidance you need to achieve maximum performance from your material handling system. They work in

conjunction with our Engineered Systems and Solutions Group to help identify, select and implement the best mix of motion control technologies and leading-edge product offerings available for a specific application. The Port Marina's bridge crane system is just one example of how automation can improve productivity and efficiency. Call your local Magnetek Sales Representative, or our Engineered Systems and Solutions Group today at 1-800-288-8178.



*This test boat enters the 70-foot channel in the floor of the building, will proceed through an automated boat wash and then will be tucked away into a berth as high as the seventeenth floor!*

# Easy access + fast response = your success

We're committed to being your "one source" supplier for all your material handling controls needs.

It is our goal to answer your call and meet your needs as fast as possible. To bring you the unsurpassed service you deserve, we have:



- Added a new toll free number so you can easily access our Service personnel for technical support on Telemotive, Electromotive and Magnetek Soft Starter products. The **1-866-MAG-SERV(1-866-624-7378)** number should be used for service, aftermarket support and repairs only.
- Posted our direct dial contact list on our website, [www.magnetekmh.com](http://www.magnetekmh.com). Dialing direct will allow you to reach the Magnetek personnel you need faster. Just click on "Support" and then "Contact Us" for an up-to-date list of Magnetek personnel by department who are ready to help!

Next time you give us a call, try the new **866** service phone number for technical support or repairs issues, or dial your party direct for the fastest service.

## IMPULSE® Series 2 Drives quantities limited



Last summer we introduced our new IMPULSE®•G+/VG+ Series 3 Drives. The advancements we made have met with overwhelming customer approval. Upon launch of these next generation drives,

we let our customers know we would continue to offer our Series 2 Drives for a limited time. Please be aware that quantities of IMPULSE®•G+/VG+ Series 2 Drives (230/460V) are now limited. Be sure to consult Magnetek at 1-800-288-8178 for availability prior to pricing IMPULSE Series 2 230/460V Drives. Our IMPULSE 575V Series 2 Drives will remain available, as they are not offered in a Series 3 version.

## Continued p. 1 IMPULSE®•LINK 4.1

### IMPULSE•LINK 4.1 WDS Includes:

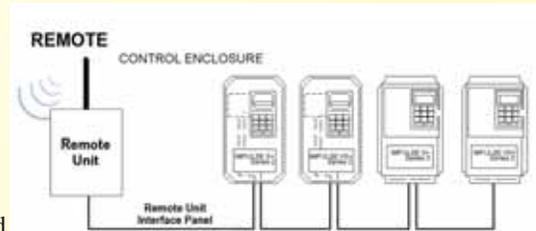
**Base Unit:** Wireless modem connected to a PC or company-wide network.

**Remote Unit:** Power supply and wireless modem. The remote unit's modem is hardwired to the drives and communicates wirelessly to the base unit.

**IMPULSE•LINK 4.1 Software:** Allows you to access all the cranes in your facility from one location.

### Setting Up A Wireless Diagnostics System:

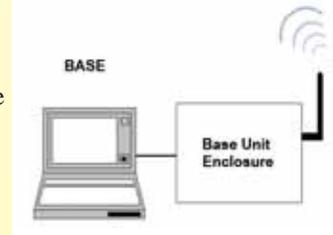
The following diagram shows the general layout for all wireless systems. We recommend one base unit per bay.



- **There must be:** One base unit and at least one remote unit.

- **There may be:** Multiple remote units for a single base unit if there are multiple cranes in one bay.

- **There may NOT be:** Multiple base units for a common remote unit.



### Our user-friendly software allows for "around-the-clock" diagnostics monitoring:

- Read/write drive parameters
- Save parameters and/or create new parameter fields
- Adjust drive parameters online or offline
- View and print detailed or compact drive parameters
- Monitor drive parameters and drive status
- Copy and paste information
- Display Help screens
- Compare drives parameters (PAR) files
- Log Alarm, Fault, and Run events from multiple drives (via DataLogger)
- Troubleshooting from your PC with advanced diagnostics Help menus
- Save parameters to a different parameter file or create new parameter files
- Communicate wirelessly up to 1,000 ft. range
- Display all parameters that are not factory default (modified parameters)

Learn how IMPULSE•LINK 4.1 WDS can save you time and money. Contact our Control Sales Department or your local representative today for more details.

# Register today for in-house training classes



## Technical Training Program for IMPULSE®G+/VG+ Series 3 and IMPULSE®P<sup>3</sup> Series 2 Drives

This comprehensive 3-day training program starts with a review of basic drive theory plus the “how to’s” of selecting and applying adjustable frequency crane controls for overhead material handling applications. Programming information for the IMPULSE®P<sup>3</sup> Series 2 and the IMPULSE®G+ Series 3 Drives in both V/F and open loop vector mode is also covered. The second half of this session covers introduction, theory and programming of our closed loop flux vector crane control,

IMPULSE®VG+ Series 3. It’s ideal for anyone involved with the start-up and maintenance of flux vector motor controls. The training session concludes with a discussion of troubleshooting for all adjustable frequency crane controls.

### Upcoming Dates

#### Tuesday-Thursday

Feb. 14–16, 2006  
April 18–20, 2006  
June 13–15, 2006  
Aug. 15–17, 2006  
Oct. 17–19, 2006

## Telemotive Radio Products

Our one-day program details all the features and benefits of our Telemotive radio product line. You will learn about the application, use and troubleshooting of the *telePilot™* and *telePendant™* models, and plus the various technologies included in these advanced radio remote crane controls.



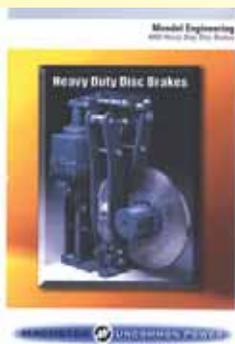
### Upcoming Dates

#### Friday

Feb. 17, 2006  
April 21, 2006  
June 16, 2006  
Aug. 18, 2006  
Oct. 20, 2006

# Training

## Reference Files



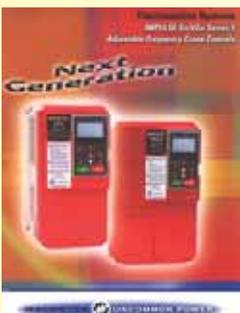
### Mondel Brakes 400D Heavy Duty Disc Brakes

Magnetek, the industry leader in industrial braking systems, offers a complete line of Heavy Duty Disc Brakes designed for a variety of high speed, high performance applications. Our advanced design features, combined with our heavy duty steel construction and superior components, make this range of brakes your best choice for applications requiring optimal performance, reliability and durability.



### Telemotive LaserGuard Collision Avoidance

As the leader in collision avoidance, Magnetek has created LaserGuard to watch over your operation. LaserGuard silently protects your most valuable assets—your people, your facility and your cranes. LaserGuard uses self-monitoring optical lasers to monitor your crane’s position. This is the most technologically advanced collision avoidance system in the industry.



### Electromotive Systems’ IMPULSE®G+/VG+ Series 3 Drives

The next generation is here! Electromotive Systems’ IMPULSE® Series 3 Crane Controls incorporate the latest in advanced control technology to maximize the performance and safety of your material handling system. Yet there’s no need to learn complicated new programming. The Series 3 has been designed to mirror the programming of our IMPULSE Series 2 product line, making the move to Series 3 an easy transition.



### Electromotive Systems’ ELECTROBAR®HX Conductor Bar System

When you need high amperage power delivery for a heavy duty application, Electromotive Systems’ ELECTROBAR® HX-Series Enclosed Conductor Bar System is the solution.

# Reference



# One source on the web for all your material handling control needs

[www.magnetekmh.com](http://www.magnetekmh.com)

If you've visited our website lately, you've noticed that Magnetek has now combined our Material Handling websites into one complete, easy-to-navigate website that contains all the information you'll need on the following products:

- Electromotive Systems® brand adjustable frequency drives, motors, soft starters, collision avoidance systems, power delivery systems and pushbutton pendant stations
- Telemotive® brand radio control systems
- Mondel® industrial braking systems

Visit [www.magnetekmh.com](http://www.magnetekmh.com) for all your material handling control needs. (If you access [www.electromotive.com](http://www.electromotive.com), [www.telemotive.com](http://www.telemotive.com), or [www.mondelengineering.com](http://www.mondelengineering.com) you will be redirected to the new site.)



## Visit our online pricing too!

If you haven't had a chance, please register for access to our online pricing at [www2.magnetekmh.com](http://www2.magnetekmh.com). This is where you'll find the most up-to-date, accurate pricing information on all of our products. You can also access our online pricing directly from the home page of our new material handling website.

## In perfect synch!

*Improved IMPULSE Drive Synchronization Software.*

Magnetek's improved IMPULSE® Drive Synchronization Software package allows multiple IMPULSE Flux Vector (VG+) Slave Drives to be synchronized to an IMPULSE•VG+ Master Drive. The software allows the slave IMPULSE•VG+ Drive to monitor a feedback signal from both the master's encoder as well as it's own encoder, and then compensate for any position errors by adjusting its motor output speed. A PLC is no longer necessary as our Drive Synchronization Software provides perfect alignment between motors. When position of your load is critical, IMPULSE Drive Synchronization Software is your solution. In addition to dual hoist application, this software can be used to synchronize:



*Perfect alignment is achieved in dual hoist applications.*

- a cable reel to a hoist
- multiple trolleys on a single bridge
- multiple motions between 2 or more cranes, and more

Magnetek's Drive Synchronization Software for IMPULSE•VG+ Series 3 Drives is now even better:

### Saves Time and Improves Productivity

- Automatic Resynchronization now has a high-speed mode. If the hooks are far apart (threshold is adjustable), the VG+ drive automatically initiates a high-speed resynchronization to help align more quickly.
- Additional Fault and Alarm functions have been added to assist with system start-up and troubleshooting.
- Ultra Lift™ can be used with Synchronization Mode. (Ultra Lift should only be permitted with no load—this is configured at initial start-up.) Additional hardware may be required due to special wiring requirements.
- Backward compatibility with IMPULSE Series 2 Master or Slave Drives.

### Increase Safety and Reliability

- Load Check™ can be used with Synchronization Mode. Additional hardware may be necessary due to special wiring requirements.
- The fault tolerance is one motor revolution out of synchronization between the master and slaves (programmable); which provides very precise control.

### Improves Overall Performance

- Position Error is stored in memory when the IMPULSE•VG+ Drive is powered down. The drive will remember the offset of the hook positions even if the power has been removed.
- Multiple Gear Ratios can be used for hoists with different hook speeds. Two hoists with different hook speeds can be controlled by a third IMPULSE•VG+ Drive (by selecting the appropriate gear ratio).
- Advance and Retard functions have been added to allow fine position adjustments without accumulating position error.
- Weight measurement can be used with synchronization mode. Additional hardware may be necessary due to special wiring requirements.

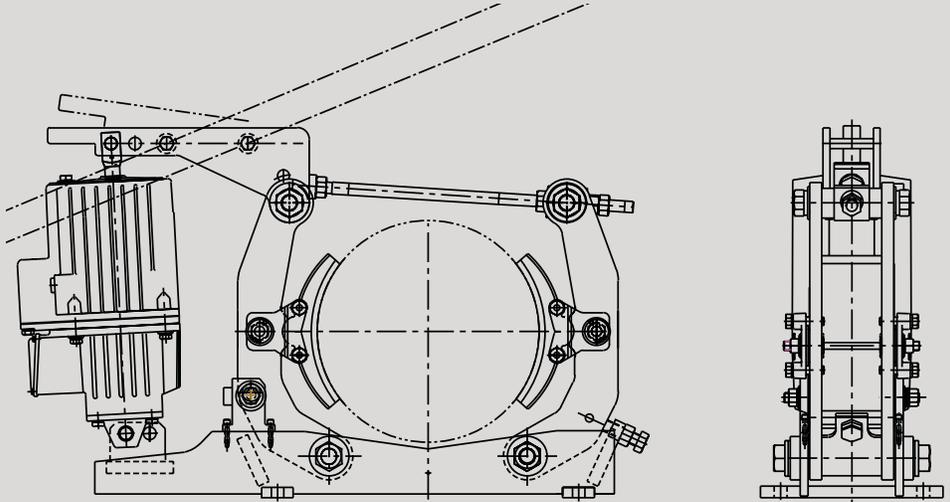
These new features and more are only available in Magnetek's Electromotive IMPULSE•VG+ Series 3 Drives. For more information, please contact Magnetek's Control Sales Department or your local Magnetek Sales Representative.

# Did You Know?

Magnetek's Mondel Brand MST Thruster Brake and MSA Magnet Brake can easily replace existing General Electric IC9516 and IC9528 brakes. We can "drop in" our Mondel Brakes without any modifications or adjustments to the existing mounting base or to the brake height.

This feature allows crane maintenance personnel the ability to replace obsolete brakes or those "hard-to-get" brake parts with a Mondel Brake in a minimal amount of time, thus reducing downtime.

In addition to the General Electric models, Mondel offers direct drop in replacement brakes for other brake manufacturers. Please contact Mondel U.S. Sales at 1-262-783-3500, or Mondel Canada Sales at 1-905-828-1526 with your specific situation.



14" MBI SHOE BRAKE  
DROP-IN GE IC9516 REPLACEMENT

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www.magnetekmh.com



- What's Inside!**
- One Source On The Web For All Your Material Handling Control Needs
  - New And Improved IMPULSE Hoist Synchronization Software
  - IMPULSE® Series 2 Drives Quantities Limited

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