

Surveyor Corporation

The Challenge: Provide secure, low cost, wireless connection with powerful data throughput in advanced research robotics.

The Solution: Offer an easy-to-implement wireless networking solution using the Lantronix MatchPort® b/g, allowing for enhanced video resolution, low power consumption and significant cost reductions.

The Result: Surveyor's selection enabled cost savings of \$100 per unit and improved data throughput over other approaches—doubling the market potential of its robotic solutions.

The Challenge: Enhance Robotics with Secure, High Performance Wireless Platform

Since 1998, Surveyor robotic solutions have been adopted by many leading edge universities and research facilities. To keep pace with research requirements and technology advancements, Surveyor knew that the company needed to deliver a new generation of interactive mobile robots that provided higher quality video resolution and data throughput. The designers at Surveyor were committed to remaining a leader in the market by delivering robotics that would meet evolving customer requirements for real-time data and improved project visibility.

During product development of the company's next-generation solutions, designers reviewed many wireless connectivity modules and determined that 802.11 was most compatible with the network infrastructures their customers had already installed and proved to be the simplest wireless platform to integrate into their robotic applications.

The Solution: Lantronix MatchPort b/g for Improved Performance and Easier Integration

After a thorough evaluation, the Lantronix MatchPort b/g proved to be a superior solution based on its ease of integration, proven turnkey 802.11 b/g capabilities and high level of wireless security. Furthermore, the b/g featured a dedicated co-processor module that manages wireless and network activity, permitting



“With our new and improved robotics solution, we estimate that we have doubled our market potential.

— Howard Gordon
Surveyor Corporation”

the robotic system's host microprocessor to function at maximum efficiency—satisfying Surveyor's requirement for enhanced video resolution and data throughput capabilities.

In addition, Lantronix offered direct application support and worked with Surveyor engineers to develop special firmware. "The customized MatchPort firmware Lantronix built for us has proven to be very robust, providing superior performance. This was icing on the cake as Lantronix gave us the best performance for the lowest cost," said Howard Gordon at Surveyor. "With Lantronix, Surveyor found an advanced product and an experienced partner that would go the extra distance to meet our requirements, while exceeding the expectations of our customers."

The Results: Powerful, Advanced and Low-Cost Robot that Meets Future Customers' Needs

By using Lantronix's MatchPort b/g, Surveyor was able to save \$100 per unit and offer its customers a new robotics solution with higher reliability and mobility, improved radio signal strength and advanced security for data-sensitive applications. Because of the proven wireless connectivity and features of the MatchPort, researchers have the capability of monitoring and controlling their lab tests via a web browser from anywhere in the world, as well as to archive video feeds on demand or permit experiments to run autonomously. This flexibility is vital to Surveyor's customers.

Surveyor Robotic Programs that Use Lantronix MatchPort b/g: The SPHERES program at MIT's Space Systems Lab was developed to allow researchers to test control algorithms for satellite formation flight and constellation building in a long-term test environment on the International Space Station. Surveyor robotics provide a vision system to SPHERES, which will allow several satellites to autonomously dock to several free-floating flexible beams, pick them up and connect them together, forming a structure.



Founded in 1998, Surveyor Corporation designs and manufactures robotics for universities and research labs throughout the world, including top-tier university research schools that use Surveyor's robotics in their curriculum. Surveyor has found a healthy market in building affordable robotics that provide researchers flexibility without sacrificing performance.

QuickLink:

For more information on the Lantronix MatchPort b/g, visit www.lantronix.com/matchport-bg

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