



RFID REVITALIZES THE VENDING MACHINE BUSINESS WITH DELI-FRESH FOOD IN A SELF-SERVICE CHECKOUT



Company: Fast Track Convenience
www.sterling-services.com

Application: Self-checkout kiosks for food service, hospitality and retail

Area of Use: Unmanned or semi-manned retail operations

Tag Supplier: Alien® Technology

Frequency: 915 MHz

Reader Supplier: Alien Technology

System Integrator: Freedom Shopping
www.freedomshopping.com

Challenge

Create an unmanned grab-and-go market

Solution

Freedom Shopping System self-service kiosk

Toolset includes:

- Alien Technology ALR-9780 series readers
- Alien Gen 2 Squiggle® tags

Benefits

- Enhanced customer satisfaction and increased store sales and profits of over 100%
- Offer deli-fresh food in self-checkout food service with an item-level RFID tagging application
- 2X to 3X sales increase at same-store locations as compared to vending machines
- 3X to 4X more profitable than the vending machine business

The Automat was a culinary revolution in 1902, but over the past century, vending machine food has become synonymous with boring, stale and unhealthy. But the food service industry is turning to RFID to revitalize the grab-and-go food market.

“The vending machine business is extremely limited by product size, payment methods and quality,” says Ray Friedrich, president of Fast Track Convenience, a division of Sterling Service, a food service management company, and a 20-year veteran of the vending machine business. “RFID literally takes us out of the box. We can offer deli-fresh food and products in any color, shape or size.”

CHALLENGE

Fast Track Convenience teamed up with Freedom Shopping to create a self-service RFID kiosk for the food service market. They discovered that they were the first. The conventional wisdom is that item-level tracking with RFID is ten years away,” says Rob Simmons, cofounder of Freedom Shopping. “We’ve been doing this for two years, with a strong return on investment.”

“The only practical way to do an unmanned application like this is to use RFID,” says Simmons. “We were new to RFID, and had heard that you couldn’t tag metals and liquids and you couldn’t do item-level tagging profitably. But that wasn’t true.”

Today, the Freedom Shopping System is in production at more than 20 mini-marts across the United States, including five customers of Fast Track Convenience in the Detroit area. At one customer, sales have increased threefold and profits per item more than doubled since the introduction of the RFID kiosk.

SOLUTION

The creation of the first successful item-level tracking application in food service wasn’t without its difficulties. “The consumer experience had to be perfect,” says Simmons. “It’s not just in front of consumers, as a barcode-based self-service checkout is, but it’s unmanned so we have to make sure nothing can go wrong,” he says.

“You stand in front of the kiosk, run up everything you’ve presented, hit OK to confirm the transaction, give your thumbprint and walk out the door,” says Simmons. A voice guides the customer through the transaction, if assistance is needed. Customers can pay by “stored account”



WITH DELI-FRESH FOOD

IN A SELF-SERVICE CHECKOUT

using their thumbprints, cash or credit. Transactions with thumb-print identification take three seconds, and transactions with cash or credit take about 10 seconds.

The Freedom Shopping Solution includes a self-checkout kiosk using RFID, universal tags, and optional gate-style readers. The kiosk includes on-screen marketing tools, such as the ability to present complimentary items during checkout. It also handles the backend processes of accounting, merchandizing, reordering and inventory management.

Freedom Shopping integrated Alien Technology Gen 2 Squiggle tags and Alien ALR-9780 readers into its system because "Alien was the only one with a practical RFID solution. Alien had equipment that was ready to go in front of customers," says Simmons. "And at Alien Academy we learned the realities of what really could be done."

To make item-level tagging practical in an unmanned environment, Freedom Shopping had to make sure that applying tags would be fool-proof. Freedom Shopping developed a patented, universal tag. The tags use a 1/8-inch of foam to elevate the chip and antenna above the item's surface, so that the product packaging or contents, such as metal or liquids, won't disrupt the radio signal. "Using a universal tag creates an economy of scale when customers purchase tags and it simplifies the logistics of tagging," says Simmons. "It's very simple and easy. If you have the discipline to count inventory, then that's the step at which you tag."

The benefits of item-level tagging outweigh the costs. Fast Track Convenience uses a single tag for 4,000 different item types and SKUs. Tags are applied as items are withdrawn from a central inventory. "With the labor savings and the sales, the ROI just works," says Friedrich. "It is three to four times more profitable than the vending machine business. Plus, we're offering a product that consumers want."

Simmons notes the high quality of the Alien Squiggle IC has been a major contributor to the zero-failure rate for the tags. "With an unmanned operation, you can't have a single bad tag," he says. "With the Gen 2 Squiggle, we don't have to prescreen the RFID tags."

RESULTS

Customer response has been overwhelmingly positive. Fast Track Convenience has installed the kiosks at a high school, a hospital, a large automotive manufacturer, an auto parts supplier maker, and an athletic club in the Detroit area. "There's incredible demand for what we do," says Friedrich.

"Customers love the convenience – even the ones who don't like technology," says Friedrich. Sales at the hospital location have more than doubled, and Fast Track Convenience is selling double the amount of food. At the Detroit-area high school, sales have shot up 300% since the introduction of the RFID kiosk. Profits per item are 5% – more than double the 2% per item average typical of the vending machine business.

Theft hasn't been a significant issue, largely because the kiosks are in controlled environments. As a theft deterrent, a security portal using RFID can be added to monitor the exit doorways of the market. If it senses that a tagged product that has not been checked out passes through the portal, an alarm will sound and a possible theft alert is triggered. An image of the theft is also recorded. "Thefts aren't any greater than any other retail operation," notes Friedrich. "If you take something without paying, there will be a series of pictures of you doing it."

NEXT STEPS

"We are doing \$500,000 a year in sales in five stores, and we're just getting started," says Friedrich. "It's about ten times above our expectations we had when we first got into the business." Fast Track Convenience plans to open 20 stores in 2008 and another 30 stores in 2009.

"Sales are ten times above our expectations we had when we first got into the business. There's a huge demand from customers."

*Ray Friedrich,
Fast Track Convenience*



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