

# Grocery Stores Use RFID to Dispense Rental DVDs

Self-serve kiosks employ passive 13.56 MHz tags to dispense and track the discs that customers rent and return.

April 18, 2007—Touch Automation, a Milwaukee-based provider of automated dispensing equipment, is using RFID technology in CD and DVD rental kiosks installed in stores. Within the past two years, the company has deployed at least 1,000 merchandising systems designed to provide customers the rental DVDs of their choice. Most of the installations have taken place within the past six months.

Unlike other automated disc rental machines, this solution uses RFID, rather than bar coding, to keep track of the discs checked into and out of the machines by customers. "The concept of utilizing RFID in this rental environment is new," says Brian Fitzpatrick, Touch Automation's director of engineering. Retailers can monitor and validate RFID-tagged CDs and DVDs entering and leaving the machine more accurately than they could with dispensing systems that used bar-coded labels to track the discs. Bar-coded labels are more susceptible to damage and can be read only if a bar-code scanner has a clear line of sight with the label.

Touch Automation machines, installed in retail locations across the country, are most commonly found in grocery stores. In most cases, the self-serve kiosks are owned and operated by private CD and DVD rental companies that have entered into hosting agreements with the grocery stores to lease space and/or provide a percentage of revenue from the system. Other grocery stores own and operate the system themselves. Either way, the kiosks allow customers to quickly rent a film or films while doing their regular shopping, providing immediate access to movies without having to either visit a video rental store or order the films online.

Touch Automation provides the kiosk, which measures 28 by 36 by 66 (or 84) inches and consists of a built-in RFID reader, a robotic mechanism for dispensing and receiving DVDs, a touch-panel screen and point-of-sale software. The kiosk is connected to a server via the Internet so the system owner can monitor it remotely. Touch Automation can host the Internet-based server for smaller companies, such as a small grocery store with its own kiosk. In most cases, however, all RFID and POS data is routed directly to the video retailer's own server.

According to Jan Svoboda, UPM Raflatac's sales and marketing director for the Americas, the Touch Automation system uses UPM Raflatac's circular Rafsec BullsEye HF 13.56 passive RFID tags, which comply with ISO 15693. The self-adhesive tags are applied to the disc's upper side, either by the disc rental company at the distribution center, or by a media distributor before it reaches the rental company's distribution center. At the same time, the DVD's unique ID number, SKU number, the movie's name and genre, as well as any other details the rental company chooses to write, are encoded onto the tag.

"The tag is used to manage inventory," Svoboda explains, "and to ensure a customer is getting the movie requested and returning the movie originally rented."

A customer using the kiosk follows prompts on the 17-inch screen to find the desired movie. After choosing

what to rent, the customer presses the "checkout" prompt on the screen and swipes a credit card using the kiosk's built-in card reader. The machine's robotics system then pulls each chosen title from the storage area and brings it within an inch of the RFID reader, which captures the tag ID number of the movie. The Touch Automation system compares the RFID data with the data related to the customer's selection. If the information matches, the DVD is provided to the customer through a slot.

When returning the DVD, the customer presses the "return" prompt, the robotic system draws the disc into the machine and the reader captures the RFID data on the DVD's tag once more. If there is a match, the disc is returned to its storage position and the point-of-sale process proceeds to charge the customer's credit card the appropriate amount for the duration of the rental. The data related to the rentals can then be stored in a hosted Web site via a broadband Internet connection.

**RELATED\_ARTICLES** These automated DVD self-service kiosks hold between 550 and 3,500 DVDs at a time. In addition, Fitzpatrick says, "the system can take an unattended inventory of itself" when instructed to do so. After completing such an inventory check, the robotic arm removes each video individually and captures data on its RFID tag.

A similar version of the Rafsec BullsEye is in use by the library market, Svoboda notes, for similar applications involving audio or software CDs and DVDs.

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