

CHECKPOINT

Checkpoint introduced its RFID-based Intelligent Library System (ILS) in 1998 after offering a similar product to retail stores for several years. ILS employs a single technology supporting both security applications and materials handling.

Checkpoint continues to offer electromagnetic theft detection systems and radio frequency (RF) systems. It appears to be the market leader in radio frequency identification (RFID), with more than 100 RFID installations.

Tags

The tags are passive and conform to the 13.56 MHz standard. They are read-write tags manufactured by Mitsubishi Materials Corp. per specifications developed by Checkpoint. Each has 95 bits of programmable memory.

Checkpoint offers a 2.1-inch square tag for books and donut and rectangular tags for CD/DVDs and videocassettes. The video tag is affixed to a video's spine and covered with a title label.

The square tags can be used not only in books but also in patron cards to control building access. When used in patron cards, patrons leaving the library are recognized as well as the material they are taking with them.



Three Types of Tags.

Programming station

Conversion is done using a programming station that consists of a tag encoder interfaced with a PC and a barcode scanner. The barcode reader captures the identification of each item, and the information is stored and displayed on the screen to confirm that the information has been captured correctly. When confirmed, the identification information is transferred to an RFID tag using the same device for both book and nonbook tags. No connection to the automated library system is involved.

Linking station

A linking station is used when preprogrammed RFID tags are used, which is the case when a library has not used barcodes or is adding materials after the RFID system is installed. The software is mounted on a PC that is used as a cataloging station. The RFID tag is read into the automated library system record.

A thermal printer can be added to produce barcode labels for locations that have not yet implemented RFID.

Staff workstation

The reader is tiny: 14 by 12 by 3 inches. It has a steel chassis in a dark gray plastic case. Items can be passed over it in any direction at a distance of up to 12 inches. The read rate is 20 items per second, but most libraries have found that eight to 10 items in a stack is the maximum that is comfortable for staff to physically handle.

An RS-232 interface links the unit to a barcode reader so items and patron cards not yet RFID-tagged may be processed. The staff workstation interfaces with the circulation module of an automated library system using the SIP2 protocol.

Patron self-charging station



A Patron Self-charging Station.

The patron self-charging station features a graphical user interface (GUI) and touch-screen technology. After scanning the barcode on the patron card, a patron passes the materials over the embedded RFID reader. The distance may be as great as 12 inches. The system automatically generates a receipt for the items being checked out.

The station is available with optional components for reading RFID tags in patron cards and for reading magnetic stripes. It has a standard 15-inch touch-screen monitor, but a flat-panel touch-screen is available as an option. The unit interfaces with the circulation module of an automated library system using the SIP2 protocol.

Exit sensors

There are two models of exit sensors: light gray plastic and wood-enclosed (oak or cherry). An exit sensor can read up to 20 items a second at a distance of up to 30 inches. The read range is intentionally short to reduce power consumption. When two sensors are used, they are spaced 4 feet apart to provide a total of 8 feet of coverage, including 2 feet on the outside of each of the sensors.

The sensors identify not only the library materials, but also the patron if she or he is carrying the patron card. An interface to an automated library system is essential. Circulation status is the system's security guide, rather than a theft bit.

Competitors that do not require a link to the automated library system claim that the security information cannot be passed back and forth fast enough to catch fast-moving patrons. But some librarians familiar with the Checkpoint RFID system say that proper tuning eliminates the problems.

Bookdrop reader

A reader is available for incorporation into a bookdrop so that items are read and the security status changed as they drop past the reader into the bin.

Portable reader

Checkpoint's hand-held reader can be passed by books on the shelves at a rate of a shelf every one to two seconds. The read rate is 20 tags per second. The reader ascertains the circulation circuit in each item and updates the library's database as to the existence and location of the item. The reader can be used not only for inventorying but also for individual item searches, mobile charging and discharging, and weeding materials.

The reader, which can be wired or wireless, can be used for shelf-reading, but that function has to be performed independently of the inventorying application. The battery in the portable reader lasts up to four hours.

Customers

Checkpoint has more than 100 RFID installations worldwide. Customers include: University of Pennsylvania's Annenberg Library, Salt Lake City Public Library (Nev.), University of Connecticut's Homer Babbidge Library, University of Georgia's Alexander Campbell King Law Library, Homewood Public Library (Ill.), Iowa City Public Library (Iowa), and Santa Clara Public Library (Calif.)

These libraries are using BiblioMondo, TLC Library.Solution and Carl.Solution, Companion, Sirsi Unicorn and DRA Classic systems, and systems from Dynix Corp., Endeavor Information Systems Inc., GIS Information Systems, Geac Software Solutions Ltd., and Innovative Interfaces, Inc.



Exit sensors—White Finish and Wood.



Portable Reader.