



newsletter

Ltd.

The management
Newsletter for all
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The most important showcase....

....for retail applications of scanning is the National Retail Merchants Association Business & Equipment Exposition. This annual convention is scattered about the New York Hilton and New York Sheraton Hotels (just down the street from each other) with physical arrangements that are much less than adequate. Although rumblings of discontent are constantly heard from the exhibitors and visitors, the show gets larger every year -- and continues to struggle at the same venue.

For the most part, we attribute the annual increase in the number of exhibitors and the size of their booths to the growing importance of scanner-based hardware, software and systems for the non-food retailers. The exposition attracts visitors who are the important systems management personnel of the major retail chains, as well as the owners and operators of many smaller and medium-sized stores. This event has become the time and place for the vendors to put their best feet forward for these important retailers.

What follows is a rundown of a few of the notable exhibits and presentations that we think have some staying power (see also the separate article below on Symbol Technologies' new product introductions at the NRMA show):



SCANNERS

Notwithstanding the reports that European and Japanese retailers continue to prefer CCD scanners at point-of-sale, American retailers show little sign of switching from the more versatile -- and more expensive -- lasers.

The so-called "hands-free" slot scanners that have been reconfigured to sit on their sides on the top of the counter (as opposed to the in-counter supermarket versions) are getting smaller and more adaptable. Many of the larger stores and chains are installing both top-of-the-counter and hand-held laser scanners, depending on the needs of their individual departments and types of merchandise and packaging. Spectra Physics continues to report success with its counter-top Freedom Scanners, while the Omniscan unit, marketed by POSDATA (*SCAN* Mar 89), is said to be attracting attention for its small size, unique design and aggressive performance.

As more stores have adopted scanning, the increase in scanner sales has heated up competition and prices have been coming down -- particularly in the



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hand-held scanners. Metrologic, for example, has become very price-aggressive and recently landed (through their distributor POSDATA) a major K mart contract for their hand-held units. Metrologic took the hand-held scanner business away from Symbol Technologies, which had been K mart's preferred supplier. Monroe Dorris, Metrologic's National Sales Manager, maintains that there will be production efficiencies and lowered component costs as volumes increase for these scanners, and he anticipates that prices will continue to drop accordingly.

Recognizing the importance of the top-of-the-counter market for scanners, Symbol has introduced a series of new products based on hands-free operation. The first model has a very small base (or "footprint") and its single line scanning head is attached at the end of a flexible gooseneck. The next version of this group (scheduled for introduction in about six months) will include omnidirectional pattern scanning -- with a rotating head designed to read even those UPC symbols that have been truncated (or shortened).



SECURITY SYSTEMS

The integration of bar code scanning with retail anti-theft devices has been increasing. Last year, Checkpoint Systems (Thorofare, NJ) featured their Cheklink RF tags -- disposable, pressure sensitive labels on which bar codes were printed and RF circuitry embedded. These tags were designed to be applied by the retailer and deactivated at the checkout counters when scanned (SCAN Feb 89). Special laser scanners, which were developed by Symbol Technologies (hand-helds) and Spectra Physics (slots), were adapted by Checkpoint so that when the bar codes were scanned, the tags were deactivated in one motion. (Security Tag Systems Inc., St. Petersburg, FL, demonstrated a version of this type of RF tag with checkout deactivation accomplished using a CCD scanner.)

This year, Checkpoint updated their system with the introduction of a new line of "inactive" RF tags, which can be attached to the merchandise at the source by the manufacturer, and then activated in-store by the retailers as the products are received. These manufacturer-applied tags present an attractive advantage to the retailers who would not have to tag each item before shelving.

The growing use of scanning systems integrated with security systems is expected to enhance the attractiveness of both technologies to the retailers.



UPC CATALOGING

The concept of a service bureau which would create a database of all vendor UPC numbers and make it available to the retailers as needed -- in real time or periodic batch mode -- is not catching on as quickly as anticipated a year or two ago (SCAN Aug 88). The service is being offered by GE Information Service (Rockville, MD) and Quick Response Services (Greenbrae, CA). [QRS is the marketing organization for the database created and managed by IBM.]

The idea is for a vendor to provide its basic file of UPC numbers, with product descriptions (and even prices), to a single source (GE or QRS) which would then make the information available to all of its retailer-clients. After that, each of the vendor's additions, deletions and changes need only be transmitted one time to one place. The retailers, in turn, need only query one database to obtain all of the current UPC numbers for all of their suppliers. Both the vendors and retailers would pay a fee to sign up for this service.

[We thought that IBM floated a really neat idea at the NRMA convention for a complementary service that they may offer through QRS. Each vendor would supply photographs to IBM of each of their products that is listed on the central database. When the retailers call up the catalog on their terminals, not only will the item identification data be transmitted to them, but a video picture of the actual product will appear on the buyer's screen to help make a purchase decision. IBM was showcasing this concept to test retailers' responses.]

Although the UPC catalog would seem to be a perfect solution to the horrendous task of maintaining up-to-date files on a million+ SKUs in a department store, the sign-up rate has been slow: GE and QRS/IBM each report that they had signed up only about 100 vendors and a dozen retailers as of the end of 1989. These service bureaus are far from discouraged as yet. John Thompson, General Manager/Sales and Marketing for QRS, feels that the UPC catalog is moving along just fine. He says the system will take another two to three years to become widely established --just like the development of EDI.

COMMENT

We foresee possible difficulties with competing companies offering this same UPC Catalog service, since this would suggest that each vendor and retailer would be forced to sign up with both companies in order to gain full coverage. When confronted with this question, the GE and QRS people talk vaguely about a "crossover" method, whereby a retail chain which has signed up with one service would be able to access both. We came away with the feeling that this issue was being fudged at the moment because it is a potential problem for which no solution has yet been worked out.



WINDUP

It was mostly business as usual on the exhibit floors, in spite of the Campeau fiasco, which was on everyone's mind and hung like a pall over the exposition (the Federated and Allied bankruptcies were not to be announced until a week after the NRMA show). The stores still need sign-makers and clothes hangars and credit card verification systems and business forms and display fixtures -- along with their new-fangled scanning systems.

As automation takes hold, scanning can be seen creeping into more and more of the store's front-end and backroom operations -- and yet market penetration is still estimated to be only 10%-15%. The retail market, therefore should sustain a major growth curve into the middle of this decade.

[A more concentrated and focused examination of systems that link retailers with their manufacturing and support services vendors will be presented at Quick Response '90 on March 20-21 in Dallas. Sponsored by VICS and AIM, the two-day conference program and vendor exhibits will be directed toward how to plan, implement and expand QR partnerships.

The opening keynote address will be given by Jeffrey Hallet, President and founder of TRAC, the Washington, DC-based research and consulting firm. Known as a "futurist," Hallet will examine the information age and the impact of computers and telecommunications on today's society. In the closing keynote, Joseph Haggart, Jr., President/CEO of Haggart Apparel will discuss how retailers, as well as manufacturers of apparel and textiles

can use Quick Response Systems to their competitive advantage. Hagggar and his company have been leaders in promoting and installing the latest in apparel manufacturing technology. AIM-US (QR90), 1326 Freeport Road, Pittsburgh, PA 15238; 800/338-0206.]

The first month of the new decade....

....turned out to be a rough one if you happen to be a public company in the automatic identification business. Telxon continued to take its lumps as it entered the last quarter of a disappointing fiscal year. Intermecc's performance continues strong, but third quarter sales and earnings, that fell a little short of the financial analysts' expectations, caused its stock to drop off about 15%.

But no one had a worse time than Symbol Technologies. On Monday, January 15, during the NRMA Exposition, the company ran two important meetings, back-to-back. In the morning, management met with a group of financial analysts, who follow the auto ID industry, to disclose some disturbing news about last year's performance and this year's expectations: earnings for the last quarter of 1989 were way below forecast (\$.05 per share vs. the \$.25 to \$.30 per share range predicted by most analysts); the integration of MSI has been taking longer than anticipated (even compared to predictions as recent as 6 months ago); the MSI division's sales remained flat and management expects no significant improvement until the second half of 1990; and profit margins in hand-held scanners are eroding because of price competition.

Within just a few hours, by the time the second meeting got under way, Symbol's stock had lost 1/3 of its value on the New York Stock Exchange, plummeting from about \$15 per share to \$10.

The afternoon meeting was called to announce Symbol's new LRT 3800, a portable data terminal with scanner, which incorporates the latest technology in spread spectrum RF communications. In a remark, which suggests the significance that management places on this new product group, CEO Jerome Swartz said: "I equate the importance of this new unit to the LS 7000 [handheld laser scanner], which launched Symbol in the 1980's. This will be the next generation of technological development and will be a new wave of data technology."

[Betting the ranch on a "new wave of technology" is not so easy these days. Before the month of January was out, for example, IBM and Motorola had announced the formation of Ardis, a joint venture to establish a wireless communications network for computers. Based on the same technology that is used for cellular telephones, the network services will be initially offered to companies with field sales and maintenance staffs. These personnel will be equipped with portable computers (presumably Motorola's at first) and they will be able to establish instant two-way communications with their home office computers via radio.

Although these applications would seem to overlap some of the systems offered by Symbol (and Telxon and others), a Symbol spokesman thought the impact would be minimal, affecting only a small percentage of their market -- and not affecting the new RF spread spectrum applications at all.]

As for the LRT 3800, it was actually developed in three separate corporate locations: the visible laser diode scanner came from Symbol's Long Island

headquarters; the special portable data terminal was designed by MSI in Costa Mesa, CA; and the critical RF spread spectrum technology -- dubbed Spectrum 1 by Symbol -- was contributed by a new research center in Cupertino, CA.

[SCAN will report more details about spread spectrum in a future issue. So far, only Intermec and Symbol, in this industry, have moved in this direction. Spread spectrum was developed by the US Department of Defense for the military and space exploration. According to Fred Heiman, Symbol's Executive VP in charge of the Cupertino research operation: "The main attribute of a spread spectrum system is the fact that robust data communications can exist in the presence of high levels of interfering signals, which can include other spread spectrum systems in the same band. The key features that spread spectrum brings to these applications are low cost; non-FCC licensing; high speed; and on-line data communication."]

Symbol is anticipating that this new product group, with its communications features, will expand its presence in the retail environment, and also open up other new and relatively untapped markets: the health industry (allowing every doctor and nurse to bring a portable terminal right to the patient's bedside); the airline industry (real time reconciliation of checked baggage and passenger boarding); manufacturing (tying together work-in-process, finish goods inventory and raw material receiving).

Heiman was careful to point out that Symbol is not striving to provide a full systems solution. He characterizes the company as "hardware technologists" and visualizes forming strategic alliances with systems integrators and other companies which design and sell customized application software. The first such strategic alliance for the LRT 3800 will be with Post Software International of Wake Forest, NC. PSI supplies retail systems software for "store-level functionality" and will develop application software and host interfaces to the LRT. Haggar Apparel and Wal-mart stores are working with Symbol/MSI as testing sites to help define the product and its specifications.

COMMENT

Jerry Swartz and Symbol President Ray Martino stated that they expect to start shipping the LRT 3800 in July and that sales of these units will be reflected in improved revenues and earnings for the company in the third and fourth quarters of this year. We suggest that meaningful sales and profit improvements, in such a short time span, may be a tall order to expect from what is not only a new product but, in effect, a new system concept that will require extensive customer preparation.

The sharp decline in Symbol's stock seems to have resulted from what some analysts referred to as poor communications ("they should have told us sooner"). The long term success of the company, however, will depend much more on how accurately Symbol has analyzed the future needs of the market and how closely Symbol will meet those needs with these new products.

In a significant departure....

....from other texts that have been published on bar code scanning (e.g. Harmon & Adams: *Reading Between the Lines*; Palmer: *The Bar Code Book*; Adams & Lane: *The Black & White Solution*; Burke: *Handbook of Bar Coding Systems*), a new book by Harry Burke moves beyond basic technology and application case histories.

Published by Van Nostrand Reinhold, *Automating Management Information Systems*, (Vol. I) takes the reader into the manufacturing environment to explore the many applications of bar coding as an essential component of any management information system.

In the typically straightforward and uncompromising Burke approach to all challenges, he states in his preface: "Barcoding is the only cost-effective information-collecting technology capable of supporting realtime management. There is no alternative to comprehensive barcode programs. This is the story of barcoding's role in making realtime management possible."

In journeying beyond what the author refers to as the "traditional view of bar codes as labels only," the 500-page book moves the reader from Chapter 1 -- which defines and describes Management Information Systems -- through a primer on bar codes and into productivity management. Along the way, Burke describes the latest methods for the efficient processing of transactions in every area of the corporation, including marketing, engineering, production, quality assurance, material control, accounting, sales and shipping.

Burke also undertakes a complete analysis of how a system based on bar coding can be installed for Tool Control -- which he refers to as a "universal application." He explains: "Every productive organization has a tool control problem...to track items in two-way flow -- in, out, and back to stock...[and] the basic MIS principles that are capable of managing tool control will work in all other industrial applications."

This book is not written for the casual reader looking for an overview of bar code scanning and "how it works." It is targeted to reach the staff engineers -- in any area of the corporation -- who are contemplating the design and installation of an automated factory system. The sales engineering personnel from equipment vendors, who contemplate selling systems to these industrial users, would also do well to familiarize themselves with what Burke has to say.

Volume II of *Automating Management Information Systems* is due in the Spring of this year. Copies may be ordered directly from the publisher: Van Nostrand Reinhold, Mail Order Dept., Box 668, Florence, KY 41022-0668; 606/525-6600

As an effective combination....

...of education and sales promotion, corporate-sponsored users groups have become very popular in many high-tech industries. In auto ID, we are aware of three such organizations.

Epic Data Systems claims to have been the first in the industry to introduce the concept of a user association. Founded in 1985, the Epic Data group now numbers over 400 companies. There were 115 representatives from 75 corporations at the organization's 3-day symposium held in Vancouver, Canada last year when the theme of the meeting was "Data Collection: Past, Present and Future." The organization's sixth annual conference will meet April 9-11, 1990 at the same location. (Contact Fred Holflok, Epic Data, 604/273-9146.)

About three years ago, Intermec also recognized the value of sponsoring active relationships and communications among its users (SCAN Sept 87). The organization has since grown rapidly and now has over 2,900 members. [To

facilitate and enhance this exchange of information, Intermec introduced an electronic bulletin board dubbed the Orca Network -- from the Orca whale, found in Puget Sound near Intermec headquarters, and said to be one of nature's "most efficient communicators."] This year's annual Intermec Users Group Symposium will be in Chicago on April 17-20. Intermec sees these meetings as a means to expand the users' knowledge of bar coding, as well as to familiarize them with the company's product line and capabilities. Contact Steve Burr, 206/356-2600.

A newcomer to the corporate user-group approach is Symbol Technologies, which will hold its first user conference on March 11-13 in La Jolla, CA. The conference will cover bar code scanning, portable data terminal and radio frequency data communications equipment and software. (For further information: Symbol Tech User Conference HQ; 312/644-6610.)

A different approach to the user group concept is the one which originates with the users themselves and is related to the general technology and not to any individual company. Just such a group was started in Minneapolis, through the efforts of Bob Trautman, Manager of Industrial Engineering at Minnegasco (a natural gas utility). The Twin Cities Bar Coding Users Group is a non-profit organization dedicated to educating users about automated identification technology and to sharing experiences in developing and implementing systems. According to Trautman: "Our group is seen as part of the required infrastructure needed as the industry grows and evolves toward an integrated systems development."

Trautman had been assigned by his company to develop two pilot projects involving the systems design and implementation of bar coding. While wrestling with these issues -- "alone and in a vacuum" (as he puts it) -- he hit upon the idea of sharing his experiences with others. He then publicized his idea in the Twin Cities Computer Users newspaper, and soon rounded up 20 other users of bar code systems. Together, they formed their group early last year.

The Twin Cities organization is unique for two reasons: it is open to all participants, regardless of whether they are users or vendors; and it is not limited to any particular manufacturer's hardware. Everybody is welcomed. So far, they have met three times and have developed a program schedule for the future. Twin Cities offers its assistance to any other users from other locations interested in starting a similar program. Twin Cities Bar Code Users Group, Box 1165, Minneapolis, MN 55440-1165.

The growing list of publications....

...devoted to electronic data interchange (EDI) reflects the increasing importance and proliferation of this technology.

EDI presents an interesting identification problem. Because it is essentially a "process" or "service" with no specific or unique hardware involved, it is often difficult to isolate EDI as an industry. The vendors -- who, for the most part, supply software and services -- do not yet have a trade organization they can call their own. This fuzzy image has tended to slow down the adoption and implementation of standards, which are so essential to the orderly growth of an industry. As succinctly stated by AIM's Executive Director, Bill Hakanson: "The primary problem...is to convince the EDI group that they are a bona fide group." (SCAN July 89)

There is no question, however, that EDI has become a worldwide phenomenon. It has captured the attention and imagination of systems people in applications ranging from manufacturing to retailing, while encompassing all of the distribution, transportation and communications functions along the way. Until recently, there were few published resources for EDI users to consult. Within the past three years, however, a significant number of newsletters and source references have become available. The following is just a partial listing:

- International Guide to EDI Products and Services: A 100-page, pamphlet-size directory, distributed twice a year to more than 10,000 corporate decision makers. Listings are grouped by product category, and include company and product names, addresses, contact names, phones and descriptions of each product. (EDI Executive Publications, 1225 Johnson Ferry Road, Marietta, GA 30068-2727; 404/963-4683.)
- EDI Executive: An 8-page monthly newsletter providing case histories and information about companies in the industry. (EDI Executive Publications -- see above.)
- EDI Forum: An annual publication which includes analytic perspectives on the activities of EDI and provides a forum for discussion of EDI issues. (EDI Publications, Box 710, Oak Park, IL 60603; 312/848-0135.)
- EDI Yellow Pages International: A directory of 8,800 trading partners involved with EDI, including both alphabetic white pages and industry-grouped yellow pages. (EDI, spread the word!, 13805 Wooded Creek Drive, Dallas, TX 75244; 214/243-3456.) [Also from this same publisher are four brand-new books: *EDI and the Law (International)*; *EDI and American Law*; *EDI: A Total Management Guide*; *EDI Technology*.]
- EDI: Mission Possible Videotape: A 20-minute video, introducing senior managers to EDI. (EDI Executive Publications -- see above.)
- EDI News: An 8-page bi-weekly newsletter which serves as a clearing house of information on new trends and developments. (Phillips Publishing, 7811 Montrose Road, Potomac, MD 20854; 301/340-2100.)
- EDI Source Book: A reference listing vendors of EDI software, systems and consultants. (Phillips Publishing -- see above.)
- EDI Market Impact Studies: Volume I - Electronics; Volume II - Automotive; Volume III - Defense. (Phillips Publishing -- see above.)
- EDI User: An international electronic data interchange journal, started in Spring, 1989 and published 24 times a year. Covers the international scene with emphasis on the European market. (Baltic Publishing Limited, Baltic Center, Great West Road, Brentford, MX; TW9 9BU ENGLAND; phone 01-847-2446; FAX 01-569-8688.)

In addition, there are numerous trade shows which are devoted solely to EDI, as well as EDI seminars which are incorporated into the programs of trade shows dealing with other technologies.

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