



newsletter

The management
Newsletter for all
industries involved
with bar-code
scanning and
related
technologies.

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SCAN-TECH 87

SCAN-TECH 87 was held at Bartle Hall in Kansas City, Missouri on October 12-15. Of the 7,000 people attending the show, a record-breaking 1,600 were seminar registrants and 2,000 were representatives of exhibitors. [Editor's Note: We were particularly gratified to uncover a little noticed sign of the growth and maturity of the industry: We estimate that about one-third of all the attendees were women. Just a few years ago, the SCAN-TECH exhibit booths and seminars were almost total male enclaves.]

The comments from everyone were uniformly upbeat. More than 700 people attended the keynote speech, a most eloquent and interesting presentation by Tracy O'Rourke, President of Allen-Bradley, who placed automatic identification and computer integrated manufacturing (CIM) in very clear perspective. We were particularly impressed with O'Rourke's video presentation of a totally automated factory-within-a-factory installed at an Allen-Bradley plant.

The seminars were very well attended, and the exhibit booths were crowded with knowledgeable visitors who were focused on their specific needs and not just "shopping around for information." For example, Kevin Dowd, Director of Sales for Mars Electronics, observed that "VAR's and OEM's are here for serious discussions and to complete deals with the manufacturers."

We stopped at just about every booth and talked to hundreds of people to get the sense of what was happening. Here are some highlights of our random impressions:

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Very much in evidence, and probably the hottest product category in the industry are portable data collection terminal/computers with bar code scanning wands and laser guns attached. Variations of this type of system were shown by Telxon, Mars, Tohken, MSI Data, Hand Held Products, ITS, Panasonic, Intermec, Comtec, Nippondenso, Vertex, Universal Data, Norand and Furuno Electric -- and we probably left out a few companies.

As bar code data collection systems are spreading, it is becoming necessary to collect data from remote places, which can only be reached by people carrying portable terminals. (MSI, for instance, just introduced their Model RDT as

the first watertight unit designed specifically for all-weather or wash-down environments.) The ability to immediately download the information via modem, or even radio, makes these systems very attractive, especially in the various areas of the transportation and service industries. The hardware is coming down in price as volume increases and competition broadens. Telxon, the current leader in the sale of portables, refers to this market as point-of-origin data collection. The company is constantly seeking new applications.

Hand-held remote data entry systems have become so widespread so quickly as to be taken for granted. They may soon comprise the largest single identifiable hardware component in the auto ID marketplace.

SCAN-TECH 87

With as many as four full-page, four-color ads in every trade journal, and even billboards along the road from the Kansas City Airport to Bartle Hall, Photographic Sciences launched their biggest campaign ever to increase recognition in the industry. Interested buyers were drawn to their booth by their new slogan of "Scan-Do!" plugging the Optel hand-held laser diode scanners, and by the aggressive promotion of their very successful Quick Check verifiers.

SCAN-TECH 87

The Accu-Sort prototype of a new approach to bar code scanning looks promising -- even though the device doesn't yet have a name, price or firm date for production. As President Al Wurz demonstrated to us, the new reader can successfully decode a symbol while only scanning through parts of the bar code, without completing a total scan of all bars and spaces in one sweep. The software accumulates the partial data bits and decodes them as a coherent set of characters. Wurz believes that his company will be able to produce this scanner and sell it at a moderate price sometime next year. He sees applications such as situations where bar coded labels on cartons can be successfully read on a moving belt even if the labels are not positioned squared to the scanner. It's an innovative concept.

SCAN-TECH 87

After exhibiting at every SCAN-TECH since the first one in 1982, Markem, the Keene, NH manufacturer of printers and marking devices, chose not to participate this year because, according to company marketing specialist, Ben Nelson, "horizontal shows of this kind do not really attract our customers." Nelson explained that, "Markem is concentrating on their niche markets and appearing in other shows."

On the other hand, without too much fanfare, IBM had a booth at SCAN-TECH 87 for the first time. Using the basic technology from their retail slot scanners, which includes "advanced IBM holographic" technology, Big Blue offered two models of their new non-retail scanners. The Model 7636 laser scanner provides a raster of 16 separate, parallel, horizontal scan lines at 36 scans per second. This raster scan unit (which reads codes 39, codabar and interleaved 2 of 5), is particularly applicable to labels with multiple bar

codes -- such as the AIAG shipping label -- which can be read all at one time. The new raster scanner is priced at \$7,800 and is targeted at the industrial market for applications from assembly lines to distribution warehousing.

Also available is an alternate version of this device which provides multiple line scans at different focal distances, rather than a raster scan in one plane. This option allows the simultaneous scanning, for example, of different sizes of cartons at different distances on a moving belt. These unique IBM products worked well when demonstrated, and deserved special attention.

SCAN-TECH 87

Although we have not admired some of Intermec's recent ads (SCAN Oct 87), we do think their promotional literature is excellent. In particular, we liked the booklets on "Bar Code Data Collection Systems" and "Bar Code Label Printing Solutions." The tasteful use of graphic design and color, and the succinct and intelligent copy, made these brochures among the best at the show.

SCAN-TECH 87

Systems integration is still the marketing objective of a large number of vendors who are finding more and more of their customers demanding single-source responsibility. This need has also generated greater software capabilities from established hardware companies and spawned a number of new software specialists.

We were also struck by the importance of retail applications which, up until recently, involved only front-end scanning and some portables. Now with the adoption of auto ID by mass-marketers, department stores and specialty stores (in addition to supermarkets), retail has taken on a new dimension. Warehousing, distribution, and backroom automation have opened up important new markets with customers who have already tasted the advantages of automatic identification at the front end. Our guess is that retail -- in all of its operations -- is now the single largest non-government market area for bar code scanning, and will probably remain so for at least the next few years.

SCAN-TECH 87

Next year, SCAN-TECH 88 moves to Chicago's McCormick Place and big-time exhibition space. Few seem to be overjoyed at the prospect of leaving the more intimate, and more easily handled, facilities in cities like Kansas City, San Francisco, Cincinnati, Baltimore, San Diego and Dallas, where the past 6 shows were held. But maybe that's progress.

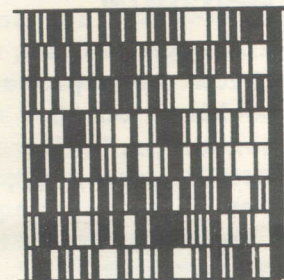
In any case, thanks to AIM for a great experience and -- at the risk of leaving out lots of people -- a round of applause for Chet Benoit (Welch Allyn), who chaired the event; and to Bill Hakanson (Executive Director of AIM) and his staff who put it all together.

There was, of course, lots more to be seen and heard at the show, some of which we describe below. Other items will be reviewed in future issues.

A great deal of activity....

....was evident around the Intermec booth at SCAN-TECH 87 prompted by lively discussions about new products, new symbologies, and new personnel. But David Allais made it clear that the one subject that he was not yet ready to talk about was his recent change of position from Chairman/CEO to Chief Scientist of the company (SCAN Oct 87). Although his silence tended to fuel speculation as to what really happened and why, he was adamant that we could question him on any aspect of the business or his work other than that topic.

Allais was most excited about the introduction of his new symbology, Code 49. (Allais was the developer of Code 39 which, along with UPC/EAN, is the most widely used bar code symbology in government and industry today.) Code 49 is a radical departure from all previous symbologies, in that it is two-dimensional (see illustration). According to Allais, "Code 49 addresses the problem of encoding more information into less space. Many objects are simply too small to accommodate a bar code symbol encoding the required information. This problem is particularly acute in the health care and electronic industries."



INTERMEC Code 49

The new symbology uses the same principles of encodation, utilizing conventional bar code structures with their parallel arrangement of bars and spaces. But Code 49 does it in two dimensions of from 2 to 8 adjacent rows of bar and spaces. As demonstrated by Allais, the symbol can be decoded using a hand-held moving beam laser scanner which reads the rows of bar codes in any order. Built-in encoded characters reveal the number of rows that must be scanned and places them in the correct sequence.

The company says that conventional bar code reading and printing equipment, which has been suitably programmed, will be able to handle Code 49 and the more traditional symbologies, and that they can be autodiscriminated. One example of the increased amount of data that can be packed into the new symbol: using a 10 mil "X" dimension (narrow bar = .010"), 78 digits of numeric data can be encoded into an area 3/4" square.

Detailed specifications are not yet available, but there is no question they will be much more complex than the more familiar one-dimensional symbols the industry has grown up with. Allais explained to us that diskettes will be provided to download the programming requirements into readers and printers. He added that he plans to put this new symbol structure into the public domain.

On another subject, Allais revealed that financial analysts who follow Intermec recently projected that sales for fiscal year 1988 will be up about 25% -- in the high \$70 million to low \$80 million range -- with per share earnings estimated at \$.75 to \$.90. Allais found no reason to dispute those estimates. For the second quarter (ended September 30, 1987), Intermec had reported that sales were \$19.7 million; for the 6 month period, sales were \$37.5 million -- up about 20% over last year. Earnings were flat for the second quarter (\$.16 versus \$.17 last year), and that was due, the company says, to increased sales development costs.

Maybe the problem boils down to the....

....perception by many industry-watchers that the ground rules were changed after the results were in for the AIM Technical Symbology Committee (TSC) Bar Code Performance Test (SCAN Dec 85, July 86, June 87, Aug 87, Oct 87).

The final report (a.k.a. the Stony Brook Study) was reviewed at a special open seminar conducted at SCAN-TECH 87 where the results were summarized by members of the TSC -- each presenting a different section of the report. Although there were few negative comments or challenges at this meeting, private grumblings were overheard throughout the show. And there seems to be good reason....

COMMENT

It turns out that the Committee determined that a number of problems arose during the study which badly skewed the results. Of particular concern were gross anomalies which the TSC decided were not acceptable. Specifically, 2 out of the 7 scanners that were used during the tests produced erratic results and a number of symbols were badly scratched. These portions of the data were therefore treated separately in order to produce findings that were more plausible.

The original design criteria, of this presumably scientific project, state, "These tests are intended primarily to establish base-line performance and accuracy levels that may realistically be achieved with commonly used bar code symbologies, print technologies and scanning/decoding equipment."

How then, critics ask, can there be arbitrary decisions made to exclude data which the study supervisors do not like -- especially without any substantive analysis or explanation as to why this was done?

Compounding the problem were conclusions that remain in the study which are totally contrary to accepted norms and principles (e.g. photocomposed labels showed up with more misreads than labels prepared on dot matrix printers) (SCAN Oct 87).

For now we have no further comment about the Stony Brook Study. We realize that we have probably belabored the point, but we feel strongly that this effort does not contribute anything worthwhile to the body of knowledge in this industry.

For the past few years....

....very little has been done at Skane-A-Matic in the way of new product development or extensive sales promotion -- particularly for its bar code operation. In the past, earnings from the profitable photoelectric sensors product line (which comprises 70% of the company's revenues) funded the development of new products and markets for bar code readers.

But Skane-A-Matic recently realized that it needed more capital than it had available to expand into new markets and to compete more effectively. Total revenues for the privately-held company are currently estimated at \$15 million and, although the firm is still profitable, sales have been flat in recent

years. About a year ago, the company started to actively seek a corporate buyer.

Last month, the Electro Company of Sarasota, Florida agreed to purchase Skan-A-Matic. (Terms of the sale were not released.) Electro, a manufacturer of motion, presence, and position sensors, is a subsidiary of Fasco Industry (an electro-mechanical parts maker). Fasco has been a part of the London-based Hawker Siddeley Group since 1980.

Skan-A-Matic's bar code reading operation, which employs 90 people, is still based in Elbridge, New York. (The company's photosensor operation had moved several years ago, with its owner, William Allen, to Boca Raton, Florida.) According to Don Attanas, Director of Marketing Communication for Skan-A-Matic, his company plans to expand its market coverage of auto ID, particularly in manufacturing and shop floor applications. It will continue to employ its four regional salesmen to support its distributors.

Attanas was confident, based upon Electro's previous performance and assurances from the new management, that the Skan-A-Matic bar coding operation will remain in upstate New York as a viable company that will utilize its new resources to regain its original vitality. "We're lean, mean and hungry," he remarked, "and after a few tough years, we are coming back strong into this market."

A not-so-tired cliché

...has struck again: The way to start a successful business is to discover a market need and fill it. Only this time, three companies seem to have jumped into the void at the same time.

The discovered need is for specially targeted education in automatic identification for vendor companies who want to teach the basic technology to their sales, marketing, engineering and manufacturing staffs along with an appreciation of what's happening in the marketplace. These seminars are not general public events open to anyone who wishes to sign up, pay the fee and attend for two or three days. They are customized, tailored programs for in-house groups.

These programs provide a solution to a real problem and a much needed service. With the industry expanding the way it has, there is limited availability of knowledgeable personnel for growing companies. Few colleges offer meaningful courses of study in auto ID; and the industry does not yet include any of the corporate giants who sponsor elaborate education and training programs which create the pool of talent for other smaller companies to draw upon.

At SCAN-TECH 87 in Kansas City we met with the key individuals of all three companies now offering in-house vendor seminars.

- David Knowlton of Bar Code Systems has prepared a very professional, personalized presentation of his educational services. His three-day seminar, which has been enthusiastically received by a number of clients, covers bar code symbologies, printing techniques, verification, scanning and data capture and industry updates. Each attendee receives Knowlton's comprehensive manual: "A Guide to Bar Coding." Bar Code Systems, Inc., 345 Market Place, Roswell, GA 30075; 404/992-8326.

- Dean Szajna has a variety of different projects going at his company, Able, Hale & Black. He characterizes his organization as "resources for productivity" and offers in-house programs to help market Automated Data Collection more effectively. The three sessions are titled:
 1. Positioning Your Company for Success.
 2. Marketing and Selling Strategies.
 3. Professional Selling.
 Able, Hale & Black, PO Box 688, Rochester, NY 14603; 716/454-7589.
- A few months ago David Collins formed the Data Capture Institute. He had recently left his position as Chairman of Computer Identics, a company he founded in 1968. His new company offers a number of consulting and educational programs in the auto ID field. According to Collins, "A vacuum now exists as new data collection applications are outpacing the expertise needed to insure their success. The Data Capture Institute will offer the education and experience to fill this critical gap." Data Capture Institute, 30 Tremont Street, Box 1625, Duxbury, MA 02331; 617/934-7585.

When you are accustomed....

....to reporting regular increases of 25% or more in sales and earnings, a quarterly report of a "mere" 10% rise in sales, accompanied by flat earnings, needs an explanation. According to Telxon's President and CEO, Ray Meyo, "Both revenues and earnings for the quarter were below our expectations due in part to lengthening of the sales and installation cycle for the more complex, integrated systems Telxon is marketing today. As a result, certain major bookings that were not converted to sales in the second quarter will be recorded as revenue in our third quarter."

<u>Telxon</u>	<u>3 Months ended 9/30</u>		<u>6 Months ended 9/30</u>	
	<u>1987</u>	<u>1986</u>	<u>1987</u>	<u>1986</u>
Revenues (\$000)	\$27,055	\$24,520	\$54,670	\$47,129
Net Income (\$000)	2,955	3,181	6,318	5,817
Net Income/Share	.22	.24	.46	.43

In addition to the delay in converting some key sales, the company reported that during the quarter it incurred significant increases in the cost of goods and in general and administrative expenses. These expenditures were the result of the changing product mix in manufacturing, and the expansion of the sales and marketing staff in anticipation of increased future business.

Meyo sounds very optimistic as he cites a list of 18 important customers who have signed major agreements for retail automation, package tracking, route accounting, and warehousing systems. He concludes: "Indicators of Telxon's fundamental business strength are that we delivered more systems to new customers during the first half of fiscal 1988 than in all of fiscal 1987. Business commitments made by customers during the first half of this year for delivery over the next 12 to 24 months are at all-time levels."

Bar code scanning....

....often provides good copy and photo opportunities in special situations -- even, apparently, where "Glasnost" is involved.

During the recent visit of Viktor Nikonov, agronomist member of the Russian Politburo (and head of Soviet Agriculture), he was taken on an official tour of a large suburban scanning supermarket (Giant Food) outside of Washington, D.C.

After witnessing the performance of an automated check-out system (as well as an automated teller machine that yielded up \$100 in cash) Nikonov remarked that some scanning has been introduced in his country. But he conceded, with a touch of sarcasm: "In such gimmicks, Americans are in the advance."

The Washington Post's story of this outing carried a photo of what looked like a somewhat skeptical Nikonov scanning a can of peas (and, we speculate, possibly thinking, "Maybe Gorby shouldn't worry so much about SDI.")

It is much too soon....

....to write anything meaningful or sensible about the stock market debacle of these past few weeks, and how the "crash" might affect this industry. The stocks of the auto ID public companies got clobbered along with all the rest, and they will probably fare no better nor worse than other so-called high-tech issues in the coming months.

[Two companies that reacted quickly -- and correctly, we think -- were Telxon and Graphic Technology (GTI), which announced that they plan to repurchase shares of their common stocks on the open market. (Telxon will buy up to \$2.5 million; GTI up to 100,000 shares.) Both companies indicated that they felt that their stocks have been undervalued and that market conditions present a favorable buying opportunity.]

The more important issue, beyond the performance of the public companies in the stock market, will be the effect all of this may have on future sales and profits for automatic ID vendors. One school of thought maintains that products related to automation -- and therefore cost reductions and labor savings -- tend to be recession-proof, and that auto ID companies will prosper in any case. This is a warm, comforting thought, but don't count on it.

Auto ID systems tend to be capital-intensive and, although ROI projections and long-term efficiencies may look attractive, customers must find the "scratch" to fund these installations. A freeze or cutback of government expenditures will not help this situation. We know of one company in the Northeast -- with a significant part of their revenues in Department of Defense contracts -- which recently installed a very extensive bar code system throughout their plant. The total cost of research and development, software and hardware, ran \$5-6 million. The project leader, who is overjoyed with the results, told us he wasn't too sure that the company would have undertaken this important program if the economic climate had been what it is today.

Our unsolicited advice to auto ID vendors is to keep your options open, your costs down, your product development active, your sales and marketing people knowledgeable, and your powder dry! Auto ID has an important and profitable future ahead -- just make sure you're around to participate.

And be happy that you're not a stockbroker or arbitrageur.