



newsletter

Ltd.

Since 1977, the
premiere management
& marketing newsletter
of automatic data
capture: Bar Coding, RF
and related
technologies.

SCAN Newsletter, LTD. • 11 Middle Neck Road • Great Neck, NY 11021 • ~~516/487-6370~~ • ~~FAX 516/487-6449~~

New Phone: 516/487-6375 New Fax: 516/487-6393

Volume XVIII Number 10

June 1995

The sudden resignations....

....of Intermecc's President Tim Koogle and VP Marketing Brian Vincent on May 18 were a shocker. We have since contacted more than a dozen industry executives -- both inside and outside the company -- and not one had any inkling that this change was coming. Many suggested that the two executives didn't resign, but were "pushed" -- although no one could offer a plausible explanation of why.

Koogle joined Intermecc in March 1992 as VP Engineering. He was appointed President of Intermecc eight months later, after John Paxton had vacated the chief executive's position to become VP of Litton, the parent organization. In 1993, Litton spun off Intermecc and a few other divisions into a new entity, Western Atlas, with Paxton serving as executive VP and chief operating officer.)

Vincent was hired by Intermecc in 1986 as a regional sales manager and was promoted to Director Corporate Business Development in 1990, to Marketing Director in 1992 and to VP Marketing, under Koogle, in 1993.

We were able to reach Paxton on May 30. "Our official position is that Tim Koogle resigned," he insisted. "When I left Intermecc, I gave him a shot at the presidency and let him run the company. He did that and had a good year in 1994. But he came from a larger company [Motorola] and he was looking for bigger and better things to do. Therefore, he resigned."

Just three months ago Intermecc announced record sales (more than \$300 million) for 1994 -- its first financial report of any kind since the 1991 acquisition by Litton. The accompanying statement from Paxton gave no hint of a problem. He seemed pleased with the company's progress, and noted: "With its continuous emphasis on research, product development and marketing...Intermecc is well positioned to continue its strong performance."

In contrast, the abrupt announcement of Koogle's "resignation" in mid-May included only faint praise from Paxton about Koogle's performance. This time, Paxton said: "Tim Koogle has brought substantial technical expertise to Intermecc, leading the way for development of the company's label printing systems group and new products that filled specific market requirements."



0273-3080(199506)18:10:1-9

INCLUDING THE INTERNATIONAL EDITION

Despite Paxton's official statement, we have been deluged with unsubstantiated rumors and speculations about other motives but, so far, there has been no confirmed information.

The rumors have been fueled by the unusually rapid replacement of these senior executives. On the same day that Koogle and Vincent abruptly left the company, Mike Ohanian was appointed President and Greg Tannheimer was named Executive VP. Ohanian had been a vice president of Intermec from 1987 to 1994, concentrating -- quite successfully -- on government business. He is generally credited with playing a key role in helping Intermec win the two successive, five-year, US government contracts -- in 1988 and 1994 -- with total estimated revenues in excess of \$350 million (SCAN Apr 94).

In 1990, Paxton appointed Tannheimer to be a senior vice president, with full responsibility for worldwide marketing. By then, Tannheimer had already been with the company for six years, as VP sales and marketing, during the critical period when Intermec was building its national sales force by acquiring its regional distributors.

In September 1994, both Ohanian and Tannheimer left the company, with no public announcement or explanation. Paxton now tells SCAN that, at that time, they both wanted to "retire early" for personal reasons. They became "part-time consultants" with Intermec as one of their clients. Eight months later, they were both brought back as Intermec's full-time top executives.

Which is where we must leave this incomplete story for now.

Riding the crest....

....of the record-breaking financial results posted by the automatic data collection companies this past year, we strode into the ID Expo 95 show (May 16-18) full of optimism and anticipation.

During the three days, we saw many positive signs worth noting -- although we also heard some grumbling about attendance at the Rosemont (IL) Convention Center (it was down 5% compared to last year, which was weaker than expected in such an upbeat atmosphere).

In a symposium sponsored by *ID Systems* magazine, titled "Market Trends in the ADC Industry," David Collins (Data Capture Institute) noted that "automatic data capture systems have only penetrated 15% of the industry potential -- 85% lies ahead." Collins listed the five factors which are driving the growth of the auto ID industry: (1) Control of operations; (2) Government regulations; (3) Better customer service; (4) Cost avoidance; (5) The desire to be "modern" (it's "the thing to do").

Our strong perception at ID Expo was that markets which have been incubating for the past five-to-ten years are showing strong signs of emerging. In this issue of *SCAN*, and continuing next month, we will explore some of these new areas of opportunity with specific emphasis on the following products and markets:

- Two-dimensional symbologies have moved, one observer remarked, "from hype to reality." At the *ID Systems* symposium, Venture Development Corp's

market research analyst, Girish Rishi, reported that industry sales of 2-D related products in 1994 totalled \$10 million. He estimated that sales for the first four months of 1995 were \$5 million. Although Girish made no forecasts, many industry observers believe that these figures will develop geometrically during the next few years.

- Radio Frequency Data Communications (RFDC) is ubiquitous -- currently concentrated in the US -- including retail, industrial, warehouse/ distribution, medical, transportation and service applications. With the adoption of the new 2.4 GHz standards, RFDC is about to travel worldwide.
- Radio Frequency Identification (RFID) still needs standards to realize its full potential, but transponders and antennas will soon be showing up for all to experience in the most visible and accessible places.
- Linerless label manufacturers are promising to take over a significant portion of the pressure sensitive label business. No more slipping and sliding on the silicon-coated release paper, they say, or having to dispose of thousands of tons of that useless backing.

And there were other products that suggest exciting times ahead. Hang on for the ride!

ID EXPO 95: Communicate, Communicate, Communicate

It is no longer sufficient to merely capture data for automatic entry into a computer. Now it must be done real-time and wireless -- whether from the shop floor, shipping dock, warehouse aisle, truck cabin or retail checkout. Batch mode is passé! If we are to believe the proponents of Radio Frequency Data Communications, wire and cable are going the way of the horse and buggy.

RFDC applications are certainly not new to the ADC industry. It's just that at ID Expo they were so pervasive. Here are just a few examples which demonstrate the potential diversity of this technology:

- We interviewed a "nurse" in the LXE booth (ok, so she was a technical writer from the home office dressed in a white uniform) who described how a small hand-held terminal linked over the air to the hospital's host computer was going to reduce costs and errors in hospital patient care.
- At the main Intermec exhibit, at the front of the hall, they scanned our badge and we placed an order for decaffeinated cappuccino. Our coffee was waiting for us minutes later at the satellite booth at the rear of the exhibition, 150 yards away.
- Delta Airlines, AT&T and Symbol Technologies have teamed up to provide Delta with a wireless data network to handle an automated cargo management system. Significantly, this equipment verifies that no baggage is loaded on a plane unless the owner/passenger has boarded.

The important RFDC news that is proving to have explosive potential is the adoption of worldwide standards specifying the 2.4 GHz (gigahertz) frequency range. Up to now, RFDC operated in the 902-948 MHz (megahertz) band, which was

only allowed -- under FCC regulations -- in the US. In Europe and Japan, in order to avoid interference with other radio-controlled systems, the assigned frequencies for data communications were in the 2.4 GHz range. A draft standard has been working its way through the IEEE 802.11 committee. With formal approval expected soon, marketing of 2.4 GHz RFDC systems has already begun in Europe and Asia. (In the US, users will be able to operate systems in either band.) One major vendor told SCAN they can't keep up with demand.

Hand Held Products (Charlotte, NC), on the other hand, takes a more conservative, pragmatic position. The company announced "RF Lite -- An Affordable Real-Time Solution" designed for the many smaller warehouses and distribution centers (up to 50,000 square feet) that do not need the sophistication or high-data throughput of what HHP's new President Scott Cardais (SCAN Jan 95) calls "RF Heavy."

"We can install a complete system for under \$20,000," Cardais told SCAN at ID Expo, "including base station, software, transceivers and terminals. We are offering solutions rather than technical advances. Our customers will be able to handle sixty transactions per minute and have no need to process twenty transactions per second."

Which is just as it should be. Systems such as Symbol's new Spectrum 24 (incorporating the latest in 2.4 GHz technology) and HHP's more prosaic RF Lite are both designed to satisfy those portions of the market that want their information accurately and promptly -- and wireless.

ID EXPO 95: Linerless Labels

The jury is still out on whether the very attractive, new linerless labels -- introduced at ID Expo last year -- will be taking a major portion of the pressure-sensitive, on-demand, label business in the near future. Linerless labels were prominently featured at this year's show by Moore Pressure Sensitive Systems (a subsidiary of Moore Business Forms) and Media Solutions Inc (MSI).

The elimination of the label release liners offers three attractions:

- It reduces product cost (25% by some estimates).
- It puts a dent in the estimated 370,000 tons of waste generated by the silicon-coated backing paper -- and does away with the dangerous slippery stuff on the factory floor. This double-feature tends to make both environmentalists and safety engineers happy.
- The reduced weight and bulk allows more labels per roll, which requires fewer stoppages for changeovers on the printers.

The technical obstacles that must be overcome to produce a linerless product for on-demand, bar-coded labels for industrial applications are formidable. The permanent adhesive must be high-tack and aggressive and, in addition, be able to withstand adverse environmental conditions; i.e., heat, cold, dampness.

In order to handle the high-tack adhesive without a liner, a heavy silicon release coating must be applied to the top of the label stock. The more silicon coating used, the more difficult to print the label -- particularly on the very

popular and widely-used, thermal transfer printers. Printing by direct thermal or dot-matrix is not as difficult.

Once developed, the linerless product can only be brought to market for bar code applications when on-demand printers are available which can handle the sticky, unprotected underside of the labels as they feed through the printing rollers. At ID Expo 95, Datamax, Datasouth and UBI stated that they have units that can handle direct thermal printing on linerless labels. (Sato and Codewriter will have their direct thermal printers adapted in a few months.) There is no thermal transfer, on-demand printer that can now handle the linerless product.

John Bane, VP Business Development at Moore is responsible for his company's research and development of linerless labels (which Moore markets as their Millennium product line). Bane is very optimistic about this product's potential. "The total market for consumable pressure sensitive labels," he recently told *SCAN*, "is \$3 billion. Within a few years, linerless will capture one-third of this market."

What about the restriction that linerless labels can only be rectangular because the sticky stuff cannot be die-cut? "When we overcome that problem," Bane replied confidently, "we will capture three-fourths of the market."

The US Postal Service gave a ringing endorsement to linerless labels with a \$31 million contract awarded last year to Cordant (Reston, VA), a systems integrator. Cordant will install 1,170 dot matrix printer/applicators at 220 USPS locations. They will be using Moore's Millennium product to print labels for "mail-forwarding" letters and parcels. The USPS expects to save \$18 million on material and productivity improvements -- and to eliminate two million pounds of waste (label liners) a year.

MSI (Longmeadow, MA) was formed in January 1994 by Tom Mitchell, specifically to develop and market linerless labels. Meyer Weiss, who came from Kanzaki Label, joined the company as president in March 1994. MSI is designing additional proprietary features for their linerless label concept.

The most significant of these MSI adaptations is SWIRL ("Self Wound Interleaved Ribbon and Label"), which Mitchell invented (patent pending). SWIRL was produced in partnership with IIMAK (Amherst, NY), a leading manufacturer of ribbons. SWIRL overcomes the high-tack adhesive problem by using a specially-designed thermal transfer ribbon as the release liner, avoiding the need to silicon-coat the label stock. The ribbon stays with the label until just before printing, when the ribbon is separated and tracked back over the label to become a standard thermal transfer ribbon. The net result is label stock and adhesive suitable for thermal transfer printing, and no slippery liner to dispose of.

MSI's Weiss told *SCAN* that there is no printer currently available to handle SWIRL. (RJS has developed a prototype which is scheduled to be available later this year.) "The linerless label market is very much in its formative stages," he said. "There still has to be lots of work done by the printer manufacturers, and the end-users have to accept the concepts."

One significant name missing from the roster of printer manufacturers supporting linerless labels is Zebra Technology, the leader in thermal transfer printing. "We have adapted our printers in the lab to handle linerless," Zebra's VP Product Development, Jack Kindsvater, told *SCAN*, "but we have not yet committed

to production. There are still problems with printing and rewinding linerless labels. We will wait and see. If and when we make a decision to produce units for linerless labels, we can bring those printers to the market very quickly."

We are not in the forecasting business, so we will not put a number to any future sales or market penetration of linerless labels. We are convinced, however, that labels without release paper backing will become a significant medium for printing bar codes.

ID EXPO 95: 2-D Symbologies

During the past year, many positive developments have signalled the movement of 2-D applications from the laboratory to on-site installations. These moves set the stage for expanded marketing efforts to make these high-density, high-capacity symbols a reality. Three factors have stimulated these developments: the adoption of industry standards; the availability of tools to process the 2-D data carriers; and the opening of new market applications.

- The standards are quickly falling into place. The Technical Symbology Committee of AIM/US completed the specifications for PDF 417 and Code One last year, and is moving rapidly toward finalizing Data Matrix and MaxiCode. The MH10.8 ANSI Committee (Unit Loads and Transport Packages) has completed its evaluations and sorted out the applications best suited for each 2-D symbology (SCAN May 94, June 94, Jul 94). The CEN standards group is moving in its own methodical fashion to issue 2-D specifications for the European Community.

The public domain issues have been put to bed. Almost everyone now seems satisfied that they can freely incorporate any of these approved 2-D symbologies into their operations without fear of violating any proprietary rights.

- The tools to implement 2-D systems are now readily available. The symbols can be printed by every method used for linear bar codes. For scanning -- depending on the symbology, application and user-preference -- the choices are rastering lasers (hand-held or fixed-position); CCD cameras; and hand-held, single-line CCDs. Just about every leading player in ADC has products on the market to handle 2-D, or will bring them on as needed.

And every scanner manufacturer ducks the question of which scanning method will eventually prevail. The standard response is: "We have them all and will supply any scanning method -- laser or CCD -- that the customer wants." Sprague Ackley, principle engineer at Intermec, is one who takes an even broader view. "Ultimately," he recently told SCAN, "all printers and scanners will handle everything -- 1-D and 2-D. Let's not forget that there is still lots of life left in linear bar codes."

- There is currently a tendency to separate 2-D applications into three neat piles: PDF 417 for portable database; MaxiCode for high-speed sortation; Data Matrix for small parts. That's how it appears from a long-range perspective. If you step closer, the lines separating the groupings tend to blur; e.g., although UPS invented MaxiCode and is dedicated to its use for high-speed sortation, competitor Roadway Package Systems prefers a combination of Code 128 and PDF 417.

The reality is that each industry and company will decide on its own application parameters and choose its symbology and scanners accordingly.

At ID Expo, the focus on 2-D systems shifted from theoretical concepts to practical solutions. UPS has purchased 150 MaxiCode scanners from CSPI and installed them at their new mammoth Chicago distribution hub. (A company spokesman told us that the scanners were working beautifully, although there were still some operational glitches in other sections of the facility.) The US Department of Defense is running a full field test in Hawaii where all personnel now carry ID cards using PDF 417. Welch Allyn sold 200 linear CCD scanners to the state of Colorado to scan automobile emissions control data that is encoded in PDF 417.

The growing credibility of 2-D as a viable, emerging business, was enhanced on May 1, when three industry veterans announced the formation of Impact Technology and Systems (West Palm Beach, FL), a company "solely focused on the sales and market development of two-dimensional symbology systems." Impact's founders are President John Doherty, VP Marketing Jim Bagley and VP Sales Tom Schaefer -- all of whom had worked for Symbol Technologies (Bagley was also with Norand). "We felt that the time was perfect to start a new business based on 2-D technology," explained Doherty. "In our opinion, this market will be larger than the traditional one-dimensional bar code systems market."

We spoke with Bagley at ID Expo, where he was busy setting up trading partnerships with vendors. His outlook differed slightly from Doherty's view, but was equally optimistic. "In five years, or sooner," he predicted, "there will be no difference between linear and 2-D. They will exist together in mixed environments. Equipment will read both symbologies interchangeably. 2-D will be viewed as a superset of linear, not as a different symbology."

Two-dimensional symbologies have held the promise of large new market opportunities ever since David Allais demonstrated his just-invented Code 49 at SCAN-TECH 87 in Kansas City (SCAN Nov 87). This may have been a long gestation period -- but the industry may be about to give birth to a very large member of the ADC family.

ID EXPO: Windup

We will have more to report about ID Expo next month, including:

- The exciting new growth of Radio Frequency Identification (RFID) applications and markets.
- New and improved scanners that can accurately read and decode anything that even resembles a bar code.
- Corporate partnerships between vendors and users that are primed to open new markets for ADC products.
- Personal ID cards that will identify you in more ways than you thought existed.
- New steps to bring 2-D symbols to the healthcare market -- which is what 2-D was designed for in the first place.

And finally, we will discuss the latest responses to the increasingly pertinent questions: Does the ADC industry need two "Horizontal" trade shows each year? And, if the answer is yes, should they both be in Chicago? See you on these pages in July.

International political intrigue....

....was not a consideration of the Uniform Code Council when its Ad Hoc Committee adopted the UPC code in 1973. But a full-page ad in *Time* magazine (3/20/95) -- containing an enlarged image of a UPC symbol -- was mysterious, nevertheless.

The ad was placed by the "Solidarity Day Committee with the occupied Southern Lebanon, Place De L'Etoile, Beirut, Lebanon." In the black and white illustration, an unhappy figure can be discerned peering from behind "bars", which are, in fact, the bars of a 5" x 6" reproduction of the UPC symbol.

The caption below the bar code reads: "On March 19, 1978, the United Nations Security Council issued Resolution 425, which stipulates the withdrawal forthwith of the occupying Israeli troops from all Lebanese territory. On March 14, 1995, seventeen years later...nothing has changed." The numbers printed with the bar code were "00000-00425", apparently referring to the Security Council Resolution number.

Now the plot thickens. When scanned, the symbol decoded "0-29092-72662-9". The UCC directory of manufacturers disclosed that this manufacturer's number, 0-29092, was assigned to Sannine Company in Brookline, MA. The name of the contact person at Sannine was Dr. Fadi Karaa.

There was no such company any longer at the address and phone number listed in the directory, but we pressed on with our investigation. We tracked down Dr. Karaa in Belmont, MA and reached him by phone. His story was as follows: Karaa had offered to help Sannine -- a producer of bottled mineral water from the Sannine Mountain in Lebanon -- to become established in the US market in the early 1980s, when imported bottled waters were the rage. He applied for and received a UPC number. Unfortunately, waters from Lebanon were not able to compete successfully with those from France and the project was dropped.

Dr. Karaa expressed complete surprise when told about the *Time* magazine ad. Although he had not had any contact with Sannine for many years, he did not believe there was any connection between the company and the Solidarity Day Committee. He suspected that someone may just have appropriated the UPC symbol from a Sannine label.

That's it! Although we try to search for all unique applications of bar coding, we have decided not to dispatch a reporter to Beirut to pursue this story. We would welcome, however, any additional information that our readers may uncover about the "UPC Mideast Connection."

New Phone: 516/487-6375 New Fax: 516/487-6393

SCAN NEWSLETTER, LTD. • 11 Middle Neck Road, Great Neck, N.Y. 11021 • ~~Phone: 516/487-6370 • FAX: 516/487-6440~~
PUBLISHER/EDITOR: George Goldberg • ASSOCIATE EDITOR: Jeff Goldberg • CIRCULATION DIRECTOR: Teddy Allen

INTERNATIONAL EDITOR: Paul Chartier • United Kingdom Office P.O. Box 7 • Cirencester GL7-1HY England
Phone: Int + 44-285-653011 • Fax: Int + 44-285-640401