



# newsletter

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scanning and  
related  
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SCANNING, CODING & AUTOMATION NEWSLETTER • 11 Middle Neck Road • Great Neck, N.Y. 11021 • (516) 487-6370

Volume XII Number 9

May 1989

## How important are the patents....

....of Symbol Technologies to the future growth and success of the company? The answer may be unfolding right now in a small courtroom in lower Manhattan.

Symbol has always vigorously defended its patents whenever it perceived any challenge to its dominance in the hand-held laser scanner arena. The patent infringement suit against Spectra Physics in 1985 was settled fairly quickly, before trial, when Spectra elected to accept a license/royalty arrangement (*SCAN* Dec 85). Other companies, such as Intermec, Mars Electronics, Computer Identics and Telxon have made various types of arrangements to accommodate the patents and/or to OEM Symbol's products.

However, there were two companies -- Opticon and Metrologic -- which decided to publicly flout Symbol's "legal monopoly" (as patents are sometimes referred to) and Symbol sued them both. The trial against Opticon began April 21 in the US District Court of the Southern District of New York. The Metrologic suit is still in its preliminary stages.

[Although it was anticipated that the Opticon trial would last about three weeks, there may be some delays. The case is being heard by Judge Kimba Wood, who is, coincidentally, the presiding judge in the current Michael Milken monster securities fraud trial. It had been hoped that the patent trial would move forward expeditiously and that a decision would be forthcoming within 30 to 90 days after the trial is completed. But this expectation may be optimistic, considering the complexity of these two cases, and others, on the judge's docket.]

Opticon's defense seems concentrated on the validity of the patents themselves -- as best as we can determine from comments by company President Jackson Lum, and from testimony we have heard, so far, inside the courtroom. Opticon's lawyers have set out to prove that the patents do not represent the hand-held laser scanners as they are actually used, and that there was "prior art."

The "prior art" defense is particularly interesting. The argument rests partially on the first scanning devices ever marketed by Symbol Technologies. These were the Laserchek bar code verifiers which preceded the Laserscan bar code scanners. Back in the mid-1970's, the Laserchek verifiers were originally manufactured for Symbol by Metrologic Instruments. As we interpret it, one of the key questions presented to the Court is: "Were the operating principles embodied in today's laser guns, and covered by the patents (e.g. trigger activation, non-contact scanning), also incorporated in the early verifiers?"



ISSN 0273-3080

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The verifier and scanning devices were brought into the courtroom and Judge Wood seemed to enjoy her first experience handling bar code scanners. From outward appearances she seems very intent on understanding the basic technology in order to render a judgment in this case.

To some industry watchers, this entire trial may really be nothing more than background noise, insofar as Symbol's future is concerned. Other observers see reason for caution. The focus is on whether a company which has grown to dominate a market segment (reportedly 85%-90%) can be seriously threatened by the loss of its patent protection, if that were to occur. As one financial analyst, who follows Symbol very closely, put it to us: "Some investors have always viewed the patents as a potential hole in the Symbol story, representing a certain degree of risk."

There was some selling of Symbol's stock these past few weeks, with resultant pressure on the price (down a few points to about 18). None of it was deemed serious, however, as investors seem to be saying that Symbol will either prevail in the suit, or it won't make any substantial difference to its future.

Symbol's management tends to discount any serious repercussions, regardless of the outcome of the court cases. They feel that their company's position -- as evidenced by its experience, reputation, resources, production facilities and worldwide marketing presence -- is no longer as dependent on its patents as it once was. Nevertheless, the company is still totally committed to relentlessly pursuing and protecting its 18 patents (including 5 new ones issued just this past month).

[One Symbol executive admits to sloppy legal work in West Germany. One of the company's basic patents was recently "invalidated" in that country because of what Symbol's US management believes to have been complacency in the preparation of responses to legal challenges. The patents have been upheld in many other countries and Symbol maintains that the German situation was an aberration and "not important in the US market."]

It would be foolish to attempt to predict the outcome of the suit against Opticon. The complete evidence has not yet been presented and it is pure conjecture to speculate on how the judge will rule. The final decision and its ultimate effect on Symbol -- as well as Opticon (and probably Metrologic) -- will be interesting to watch.

#### Talking about patents....

....we generated a fair amount of interest with our article last month about Intermecc's Code 49 patent and the reactions from industry (SCAN April 89). Hal Bailey of Data Composition (Richmond, CA), thinks that this patent could strengthen Intermecc's position by making "developers of multi-track products disclose their intentions to Intermecc."

Jill Mandeno (VP of KPG Inc., Atlanta, GA) wants to put the record straight about TELEPEN (which we misspelled). According to Mandeno, the the UK and US TELEPEN patents were obtained by George Simms of SB Electronics in 1973. She notes that it was Simms who had resisted placing the TELEPEN bar code into the public domain, and that now he may be considering freeing up the code. "But," she added, sheepishly, "this is somewhat academic in the US since I think the patent has expired."

## EC-92: The Coming European Community

*This is the first of an occasional series of SCAN articles on EC-92, the European Community, scheduled to become a reality in 1992.*

*This essay was researched by Paul Chartier, the International Editor of SCAN Newsletter. Chartier, based in Cirencester, England, has been involved with bar coding and other auto ID technologies since 1976, both as a consultant and as a user. He is one of the founder-members of AIM/UK, is currently a member of the AIM-Europe Technical Committee and Technical Literature Committee, and maintains active liaison with various standards organizations.*

*In future articles we will be exploring, in greater detail, the implications of EC-92 on the market restraints and opportunities for companies in the auto ID industry.*

The concept of a single European market of 320 million consumers is considered by many politicians, economists and futurists as an idea whose time came long ago.

The realization of the 12-nation European Community evolved over a 32-year period. The original "Six" were formed in 1957, comprised of Belgium, France, Italy, Luxembourg, Netherlands and West Germany. They were joined, in 1973, by Denmark, Ireland and the United Kingdom; in 1981, by Greece; and finally, in 1986, by Portugal and Spain -- to make the current "Twelve" charter members.

In 1985, the European Commission, representing the member countries, produced a planning paper, "Completing the Internal Market," which has become the blueprint for the European Community. This document has since been turned into law by each of the 12 nations.

If all goes as planned (and this is still not a certainty), the creation of a "Europe without frontiers" will eliminate the remaining trade barriers within the 12-member organization. EC-92 will unite a dozen economies that are of widely disparate sizes and stages of development. As part of this merger, a number of important corollary issues will have to be ultimately resolved. Some of the more sensitive problems include the harmonization of tax structures, installation of a common currency, equalization of labor rates and conformance of environmental regulations.

Those outside the EC are concerned about the possible creation of a "Fortress Europe" which will turn to stringent protectionist policies after 1992. Austria and Norway (members of the "rival" European Free Trade Association) are already considering steps to hedge their future bets by applying for EC membership. Turkey is looking at the same option. (From all indications, they will have to wait because new membership is likely to be frozen until after 1992.)

In order to provide a base of operations within the fortress, the coming of EC-92 has also prompted discussions -- among companies from other nations -- of possible mergers and acquisitions involving European Community firms. Although this method of obtaining entry into the EC is especially interesting to US and Japan businesses, it is not confined exclusively to companies from those two competing economic powerhouses. For example, Swiss-based Nestle had no EC confectionery base until it took over UK's Rowntree. Now Nestle is the ninth

largest European business, with an all-important foothold inside the EC.

But operating a manufacturing facility in one of the 12 member countries does not insure full market entry. The European Commission has clearly indicated that it does not like companies bending the rules. Eleven leading Japanese manufacturers of dot-matrix printers, with established European assembly plants, are currently being investigated by the European Commission which claims they were using too many components dumped at prices below market rates. This action is part of the crackdown on "screwdriver plants" which flout regulations on the local content of products.

As 1992 approaches, entire industries are being fundamentally affected by this economic milestone. Nearly 300 new regulations are being put into place by mutual agreement (or legislation) to remove physical, fiscal and technical barriers. These new measures are scheduled to take effect during the run-up to 1992, and about 100 are already in force. For example, starting in January 1989, a single document has replaced the 70 different forms previously needed to allow an Italian manufacturer to ship refrigerators to the United Kingdom.

The controlling body that has been assigned responsibility for the automatic identification technologies is the Directorate-General XIII: Telecommunications, Information Industries, and Innovation. DG XIII has established a mandate "defining bar codes and enabling them to be implemented in areas to which priority has been given for completing the internal market".

This mandate includes three priorities:

- requiring symbology specifications to be standardized and adopted;
- supporting EAN conventions for product numbering;
- prescribing European Standards necessary for the bar code identification of mail and parcels.

The members of AIM-Europe -- those automatic identification companies who will be directly affected -- not only see these DG XIII orders as major initiatives, but consider them as probably just the tip of the iceberg. This opinion was borne out earlier this year, when DG XIII circulated a discussion paper on using radio frequency ID technology for coding shipping containers and rail wagons. As such proposals are implemented, there is every indication that auto ID will play a critical role in the transformation of the 12 separate European economies into one efficient operating unit.

At the present time, most manufacturers of bar code-related equipment in the EC are producing printers, while only a relatively small number of companies are making scanners. During the next three years, if the European experience mirrors what has happened in the US over the past 36 months, the market for auto ID systems will grow at an explosive rate. Those companies with manufacturing and marketing bases within the Community are expected to have a distinct advantage over those who may have to climb the potential tariff walls of Fortress Europe.

In subsequent articles we will expand on these themes, and report on important new developments, as EC-92 moves toward the implementation of automatic identification standards.

SPECIAL REPORT ON EDUCATION - PART II

In Part I of this special two-part series on education (SCAN April 89), we covered some of the broader-based education opportunities available within the automatic identification industry. Last month's articles included the innovative school program instituted by the Article Numbering Association in the UK, and a sampling of the more important regional and national trade shows, which attract many thousands to their seminars and exhibitions.

This month, we will highlight examples of how effective education programs can be structured so that they are narrower in focus and, therefore, tailored to meet specific needs. In the initial article that follows, we will describe the AIM program to "Teach the Teachers." This project is targeting an increasing number of college professors and instructors who will be trained in this technology. This group will become the knowledgeable cadre that will educate the undergraduate and graduate students and, ultimately, could even provide extension courses to employees of local companies.

And, finally, we will explore the in-house seminars, now available from a number of consultants, which provide an excellent supplement (or even an alternative) to sending only one or two key employees to the trade shows.

Education: Teach the Teachers First

AIM will be sponsoring its third annual Automatic Identification Teachers' Institute this summer at Ohio University (Athens, OH). This tuition-free program is designed to help college instructors incorporate auto ID technology into their course curricula. The Institute will be held July 17-21 in cooperation with OU's Department of Industrial Technology. Its Chairman, Dr. James Fales, has coordinated this program on his campus since its inception in 1987.

Dr. Fales recently told SCAN that he has assembled, as part of his department's instructional material, auto ID equipment and software worth over \$150,000 -- all of which was donated by companies in the industry. Last month, for example, Markem Corp. sent OU one of its label printers. Ben Nelson, Markem's Industrial Market Relations Manager, encourages other manufacturers to do the same, if they "wish to further automatic ID education and the industry."

AIM underwrites the expenses (travel, accommodations and meals) for 30 professors to attend this one-week session. Up to now, invitations have gone out primarily to the Industrial Technology Departments of 150 universities. AIM now wants to broaden the scope of the program to include other disciplines, such as accounting, industrial engineering, computer sciences and health records maintenance.

The first such expansion is scheduled for July 31 to August 4 at San Jose (CA) State University under the leadership of Assistant Professor Thomas Little. (Dr. Little was formerly a student of Jim Fales at Ohio University -- an example of how such programs take root and germinate new offshoots.) The format and content at San Jose will be the same as the OU program, but Tom Little's preliminary assessment is that he will draw attendees (primarily from the California area) from such varying fields as the nursing and business schools as well as industrial engineering and technology.

In a move to recognize the importance of this educational effort, AIM recently established the "Champion of Auto ID" award to educators who have best contributed to AIM's instructional programs. The first award, most appropriately, went to Jim Fales of Ohio University, who has been so important to the success of the Teacher's Institute. AIM has also organized a new Auto ID Educator's Council to advise it on the Teacher's Institute and other educational programs.

[This may be a good point at which to insert a plug for the AIM Dick Dilling Scholarship Fund. The Fund, which now exceeds \$100,000, was established in 1986 to support students who choose a career path in automatic identification. So far, three scholarships and ten travel conference grants have been awarded to students, as well as instructional aids to accredited colleges. All contributions are US tax deductible. For further information on how you can participate, contact Bill Hakanson at AIM/US, 412/963-8588.]

#### Education: In-House Seminars

Another approach to industry education is the customized, targeted program designed for the management and staff of a single company. The concept is not new. This service has been offered by Bar Code Systems, Data Capture Institute and by Able, Hale & Black for over a year (SCAN Nov 87).

Another firm, Delta Services, was formed last Fall by Richard Meyers to specifically provide educational services to those companies who feel they are ready to implement bar coding but are experiencing start-up problems. Typical presentations of this type cover the basics of bar code symbologies, scanning devices and printing, as well as system considerations and the need for corporate bar code standards. Meyers views the tailor-made, rifle-shot approach of working with a single company -- and specifically including a committed management group -- as being the most cost-effective way in which to get the message across.

Meyers previously spent 20 years with NCR as Marketing Director and Product Manager of bar coding and other auto ID products. He continues to serve as an active member of the FACT Data Identifier Work Group and the AIAG Bar Code Committees, while remaining a contributing editor to Automatic ID News. Delta Services, 221 Duncan Trail, Longwood, FL 32779; 407/788-2289.

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#### The latest revision....

...of the Department of Defense Standard on Bar Code Symbology (a k a LOGMARS) is out for final comment. This revision -- destined to become Military Standard 1189B -- has been in work for over two years. (The Army Logistics Symbology Division at Tobyhanna Army Depot in Pennsylvania is the administering agency charged with maintaining this and other DOD packaging standards.)

The only significant change incorporated in 1189B will be the broadening of the code density range to include ultra-high density Code 39 symbols -- with narrow elements down to .0044" (15.5 characters per inch). This change was made in anticipation of future uses of bar codes on items such as printed circuit boards and other small electronic components.

Why did it take more than two years to gain approval of such a relatively minor revision? It turns out that one factor that delayed the review process was a proposed recommendation to include references to Data Identifiers -- the AIAG/FACT prefix characters that identify the contents of each code (SCAN April 88). Some members of the LOGMARS Coordinating Group thought that this might be the appropriate time to at least introduce the concept, even though the Department of Defense might not yet be ready to adopt or implement the DI method.

[The proposal (which refers to Data Identifiers as "Field Identifiers" or FIDs) stated: "An FID automatically defines a particular data field. Therefore, the scanner operator does not have to scan the bar codes in any particular order, nor does the operator have to worry about multiple scans of the same bar code."]

The DOD individuals interested in the DI approach introduced the FIDs because they perceive a potential problem looming just over the horizon. They note that multiple bar codes are already appearing on more and more military packages, documents and identification labels with no established method for distinguishing among them as to code content (i.e., serial number, contract number, manufacturer's number, national stock number, quantity, etc.).

Ultimately, the FIDs were shelved, primarily because the LOGMARS group could not yet decide whether the Government was ready to go the DI route. MIL STD 1189B, therefore, is going forward without any reference to Data Identifiers.

Meanwhile, other related packaging standards which have been updated and issued -- such as MIL STDs 129K and 130G -- are expected to broaden the use of bar coding within the Military. These specifications include the bar coding of documents, personal clothing and other government property, which portend the wider installation and use of scanning systems. These expanded applications will not require new government contracts. As we understand it, all new procurements will fall within the scope of the current outstanding contracts, which are essentially open-ended and extend for periods up to five years.

For further information and copies of the proposed MIL STD 1189B: Stuart Crouse, Director, AMCPSCC, Attn SDSTO-TA, Tobyhanna, PA 18466; 717/894-7146.

#### The European paper merchants....

...have provided yet another example of the leadership role played by wholesalers and retailers who cannot wait for manufacturers to make up their minds about industry-wide systems. [In a similar story, we recently noted the strong stand taken by the National Wholesaler Druggists Association to implement bar code scanning in the US pharmaceutical industry (SCAN March 89).]

Eugropa, the association representing paper merchants in 15 European countries, has just published its European Wholesale Paper Merchant Bar Coding Standards. In the Fall of 1987, the organization announced that the standards would be published by the end of that year. It turns out that the main reason for the delay has been the result of protracted discussions with the paper makers.

In a blunt statement issued by the Eugropa Secretariat: "Eugropa has spent nearly two years in discussions with various paper making groups explaining the merchants' requirements. The meetings have shown why the standards meet

the merchants' needs, but the manufacturers have put forward no workable alternatives." The best offer that the manufacturers could come up with was the promise of an agreement in two or three years. This proposal was unacceptable to the wholesalers and retailers, so the Eugropa Council decided to publish its own standards and let commercial persuasion and pressure play its role.

The Eugropa standards specify that: EAN bar coding will be used on all ream-packed paper; bulk packs -- reels of paper or full pallets of sheet cut paper -- will use the EAN standards for random weight shipping containers; pallet labeling will be comprised of the AIAG/ODETTE type of multiple bar coded labels as used in the American and European auto industries and incorporating the data identifiers.

There is still a long way to go....

...but it does not appear to be too premature to offer double congratulations to Photographic Sciences Corp. (PSC) and its President Mike Hone.

In a recent announcement, PSC confirmed previous estimates (SCAN Feb 89) that its 1988 sales were \$10.1 million (up 15% over 1987) and losses were reduced to \$181,000 (\$.04/share) from last year's \$3.8 million (\$1.00/share). According to Hone: "This was consistent with our turnaround plan for the company." He also noted that operations for the first two months of 1989 were profitable.

The second part of the announcement revealed that Hone had been elected President and CEO of the company as of April 1, 1989 (he was previously Chief Operating Officer). Obviously, the Board of Directors is happy with his performance so far.

We would like to draw your attention....

...to a well-done article by Kevin Sharp (Burr Brown) in the April issue of *ID Systems Magazine*. Titled "Codes in the Next Dimension," Sharp cleverly integrated four separate interviews he conducted with "leading technical experts" in bar code scanning: David Allais (Allais and Associates), Ted Williams (Laserlight Systems), Ed Murphy (Monarch Marking) and Andy Longacre (Welch Allyn).

The subject was high-density, two-dimensional bar codes -- specifically Code 49, invented by Allais, and Code 16K, invented by Ted Williams. Although these were individual interviews, the author managed to induce "face-to-face" tensions by asking each of the engineers the same questions and juxtaposing their replies to simulate a dialogue.

The result is an illuminating discussion on the background, strengths and weaknesses of the two symbologies and how they might best be evaluated by the user communities.

It may be some time before there is any broad-based use of these high-density symbols, but we commend Sharp and *ID Systems* for this timely and enlightening piece.

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