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Contrary to the many negative results....

....of the leveraged buyouts (LBOs) during the 1980s, Norand (Cedar Rapids, IA) has not only survived, but has emerged as a strong viable company.

> [In October 1988, Norand, which was a wholly-owned subsidiary of publicly-held Pioneer Hi-Bred International, separated from its parent company and took itself "private" with the help of an investor group led by Donaldson, Lufkin & Jenrette. Financing had been arranged through banks, privately-held subordinated debt and some help from Pioneer Hi-Bred. Robert Hammer, who helped structure the LBO was brought in as the new President.]

On April 10, 1992, Norand filed a "Form S-1 Registration Statement" with the Securities and Exchange Commission -- the preliminary disclosure document necessary before going public. Although subject to change, if and when the company does move ahead, the S-1 indicates that Norand plans to offer three million shares to the public in order to raise $40-$50 million.

Last week, we asked Hammer about his company's intentions and the timing of this major step. "We have not yet set an exact date for our public offering," he explained, "but it should be in the relatively near future when the market conditions are right and we can get the right kind of value for our company. Our only purpose for this move is to pay off the debt that was assumed as a result of the LBO."

The S-1 statement shows that the company's revenues have increased rapidly during the four years since the LBO. For FY 88 (8/31), sales were about $71 million with a net profit of $2.5 million. In its last fiscal year (ended 8/31/91) sales were $101 million with $9 million in earnings. For fiscal 92, Hammer predicts that both figures will increase in excess of 18%.

> [Norand's financial reports do reveal a unique pattern of quarterly sales and earnings worth noting. In each fiscal year, there is a very heavy concentration of revenues and profits during the fourth quarter (June-July-August). The actual figures for the last three fiscal years, for example, show that sales in the final quarter amounted to 33%, 38% and 38% of annual revenues; earnings for these same quarters were an astounding 98%, 79% and 93% of the years' totals.
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> The company attributes this disproportionate quarterly performance to its "historical structure of sales commissions and incentive programs....due

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INCLUDING THE INTERNATIONAL EDITION

to Norand's desire (before the LBO) to meet annual year-end financial commitments to Pioneer and, since the acquisition, Norand's need to meet its bank covenants at the end of each fiscal year."

It's a situation that can make shareholders of a public company very nervous for the first nine months of each year.]

Norand characterizes itself as a distribution automation company, focusing on two markets within the auto ID industry: Product sales and distribution (primarily route accounting); and logistics and materials handling (manufacturing, transportation, retail and service businesses).

Its strongest position has always been in route accounting, and President Hammer states that they have "picked up market share" in this area during the past few years. He adds: "We have also become a leader in RF, particularly in retailing and manufacturing. Our current backlog of orders is substantial and growing. We recently completed a number of partnership marketing agreements [Epic Data, PSC, Grid Systems, IBM and Andersen Consulting] and we expect to announce more during the next few months."

[It should be noted that no new announcements of a material nature are normally permitted during a corporate "quiet period" which is imposed by the SEC while an S-1 Registration Statement is active. Hammer was, therefore, reluctant to elaborate on any pending corporate plans.]

One very significant asset of the company that has not been widely discussed (or even mentioned in the S-1 statement) is its patents on CCD technology. According to Hammer: "We have a strong core portfolio of patents on CCDs which dates back to the late 70s-early 80s." When asked why Norand hasn't actively pursued enforcement of these patents, in view of the rapid growth of CCDs in Europe and Japan, Hammer revealed that his company has been holding "constructive discussions" with Nippondenso about this issue. "We had prepared a suit against Nippondenso in the US but it was never served against them," he explained. "Our strongest core patents are in the US, but we do have international patents as well. We have been waiting until the company is in a stronger financial position before moving ahead with the patent issues."

[*SCAN* has learned, from a separate, reliable source, that a large number of additional CCD patent claims are about to become effective -- possibly within 30 days -- which may further strengthen Norand's position. When that occurs, it is anticipated that the company may take a more aggressive stance in pursuing other manufacturers and sellers of CCD scanners.]

After Norand becomes a public company, it will be easier to watch its progress on such issues and to analyze its overall performance.

A changing of the guard....

....at FACT (Federation of Automated Coding Technologies) has brought in Craig Harmon (QED Systems) as Chairman, succeeding Bob McQuade (Eastman Kodak).

FACT, first organized in 1984 at a Baltimore "Summit Meeting" of 10 trade organizations, has now grown to include about 20 such government and industry groups (representing thousands of companies who are actual or potential users of auto ID). FACT members work to coordinate the rapidly expanding use of bar

code technology. FACT has been administered as an "independent bureau" of AIM USA; since July 1990, Bert Moore (of AIM) has been the Executive Director.

Two recent developments portend possible significant changes in the FACT organization. First, the AIM Board of Directors has decided to discontinue its role as the FACT administrator. In a May 15, 1992 letter, AIM's President Ivan Jeanblanc placed FACT on notice:

> "As you know, the AIM USA Board has been concerned over the last few months about the potential conflicts of interest which have and may arise as a result of the FACT organization being managed from within the AIM staff. The situation that developed over the FACT Data Identifiers and UCC was, of course, an example. This was the catalyst that caused the Board to take the position to separate the management of FACT from the AIM staff and the AIM offices....
>
> Therefore, the Board has developed the following approach to making such a transition as smooth as possible.
>
> 1. AIM USA would forgive the debt [$12,000] currently owed to AIM...
> 2. AIM would continue to provide staff support for the remainder of 1992.
> 3. We would encourage a business plan proposal from FACT....for support beyond 1992.
> 4. AIM would continue to be an active member of FACT."

The second development that may signify a change in FACT's role in the auto ID industry is the philosophy of its new chairman. Harmon has always been an advocate of a much more pro-active users group and now he may be in a position to implement some of his ideas.

> [In July 1985, when FACT was first being organized, Harmon attempted to form a competitive Bar Code Users Group (*SCAN* Jan 85, July 85). The BCUG was intended to be an independent organization whose primary function was to provide "hard, empirical data derived from tests performed on bar code reading, printing and verification equipment and supplies." The published results of these tests, including ratings for specific manufacturers and models, were to be distributed to the user and supplier communities. The proposed $2.5 million budget for the first two years of BCUG was to be underwritten by $100,000 subscriptions from key industry companies and trade groups. After the initial start-up, the ongoing operating budgets would be met through the sale of services and reports.]

Harmon's Bar Code Users Group never got off the ground. To his credit, he then became an active participant in FACT, the organization he originally opposed.

Now, Harmon visualizes a FACT users group that will be completely independent of AIM, which, he feels, cannot be totally objective because of its very nature as a vendor group. Harmon hopes that FACT will sponsor the same type of objective, independent research that he originally envisioned for his BCUG.

> *COMMENT*
>
> *The automatic data capture industry is vastly different today than it was during FACT's formative days in the mid-1980s. For one thing, industry standards have taken on international importance and complexity that did not exist before. Although it may seem to the uninitiated that the*

various groups who are preparing industry standards in the US and Europe are placing all their ducks in a neat row, there is an enormous amount of paddling and politicking going on beneath the surface.

FACT has been growing in stature and influence over the past three years. It is comprised of trade associations which represent a multitude of companies, but it has yet to flex its muscles and really come into its own. The reconciliation of the Data Identifiers (which FACT has sponsored as its major project since 1985) and the Application Identifiers (put forth by the UCC/EAN organizations), is an example of an important current program that requires the continued involvement of a strong FACT organization.

There are many other issues coming to the fore which need an established, knowledgeable advocate from the user community. FACT has assumed that role and should be supported by the auto ID industry.

Last month's report....

....about two-dimensional -- or stacked -- symbologies (*SCAN* May 92) requires a few explanations and corrections.

Sprague Ackley (Intermec) wrote to offer several worthwhile comments:

- Our inclusion of ICS' Codablock among the matrix codes was inaccurate. Ackley correctly points out that "Codablock is the ultimate embodiment of stacked bar codes since it is made from stacking standard symbologies such as Code 39."

- Ackley was very blunt in his criticism of our report about Veritec's President Bob Anselmo's claims that his Vericode matrix symbol is "superior" because of its flexibility, greater printing tolerance and ability to be printed using 30 different methods. "All of this is pure hype," Ackley asserts. "Any symbology must utilize two optical states, light and dark, to image a symbol. For a given X-dimension or pixel size, the printing tolerances, imaging limitations and substrate varieties are the same for bar codes, stacked bar codes and matrix codes. A scanner does not care what the pattern is, it just needs to see two optical states."

A final point in Ackley's letter questioned our use of the terms "positional" to describe the matrix codes, and "dimensional" for bar codes. We first came across these terms in an April 1990 monograph by author/consultant Harry Burke titled: "Context of Portable Datafile (PDF) Concept". In that paper, Burke wrote: "Bar code: a form of encryption where information is represented in terms of dimensions. Dotcode: a form of encryption where information is represented in terms of positions."

[Burke added: "As dotcodes are positional, they may be read in any tilt-angle orientation within the full spectrum of 360 degrees. As bar codes are dimensional -- edge-to-edge measurements required -- their possible range of angular variations is determined by bar height: the shorter the height, the greater the angular restrictions. The information carried by bar codes is redundant in terms of bar height. This redundancy is required by the flying spot technique....If this height is minimized, bar codes become dotcodes. Therefore, without question, dotcodes take

up a lot less space than bar codes -- but cannot be read by flying spot scanners."]

Two-dimensional codes are just creeping into sight and hold promise for future applications. For the moment, however, there is much disagreement about which symbologies will win out. For now, we trust our readers will allow us to enjoy the continuing controversy this subject engenders.

[Before we leave the subject of 2-D symbologies, our congratulations to Symbol Technologies (and their P.R. agency) for the terrific full-page article about Symbol's PDF417 in the Technology section of the current (6/15/92) issue of *Fortune* magazine. This coherent, accurate description, emphasizing the high density features of the symbology, appeared under the upbeat headline, "Building a Better Bar Code - It holds lots more data and could turn up on frequent-flier cards, GI dog tags, and assembly lines."

Without drawing any conclusions as to the merits of each of the proposed 2-D symbologies, this prominent coverage tends to support the somewhat cynical proposition that it will not necessarily be the best system that will eventually win the widest acceptance. The one with the strongest marketing support should never be discounted.]

The exclusive distributorship arrangement....

....with Intermec did not work out as planned (*SCAN* Nov 91), but BRT (Fountainville, PA) is still reported as viable, while continuing to wrestle with its undercapitalization problems.

BRT is a small manufacturer (under $2 million) of large, high performance laser scanner systems. Last week we discussed the company's current status with BRT's founder and president, Benny Tafoya, a veteran of the auto ID industry.

Last November, at SCAN-TECH 91, readers will recall that Tafoya told *SCAN* that he had entered into an exclusive distribution agreement with Intermec. Tafoya had explained that his company was short of capital and that he "needed such an arrangement with Intermec to survive." The understanding was that Intermec would invest new capital into BRT and would place substantial initial orders for equipment.

Earlier, last year, Ed Andersson (former consultant to BRT and publisher of the now-defunct *Inside Auto ID* newsletter) had joined the company as Vice President. Both he and Tafoya were optimistic that this agreement would be a major turning point for BRT, which had been struggling for a number of years.

The BRT/Intermec announcement turned out to be premature, since the two companies were not able to reach a final agreement on terms. "Intermec will continue as a distributor of ours," Tafoya explained, "but this will not be an exclusive arrangement." In addition, for reasons unrelated to the Intermec deal, Andersson left BRT two months ago for a position with Systems Resources (Burlington, MA).

Tafoya is now actively seeking new venture capital. He told *SCAN*: "Our order backlog is bigger than ever and we just took on a new and important consulting contract. Our major problem remains one of being able to finance production and growth."

Several years have passed....

....since we last took up the cudgels to berate the US/Canada UPC community about its lack of initiative in taking strong policy positions to see that all American retailers can accept the 13-digit EAN symbol (*SCAN* Mar 90).

This problem of UPC/EAN incompatibility within a large segment of US retailers manifests itself periodically in isolated situations that do not seem to have sufficient critical mass to force the issue.

> We are often surprised to find that many people in the auto ID industry do not fully understand the UPC/EAN relationship. To begin with, it must be appreciated that the Version A UPC and the EAN-13 bar codes are exactly the same. They both encode 13 all-numeric characters using the identical bar code algorithm. The confusion arises because the 13th character of the UPC symbol is always a zero and therefore it has been considered unnecessary for it ever to be printed in its human-readable form. The only difference between the two symbols is the omission of this 13th character and the arrangement of the numbers under the bar codes; these minor changes have led many to believe that the symbols are different.
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> For the past 15 years, every equipment manufacturer in the world that produces scanners for retail applications has included the capability to read and decode the complete 13-digit UPC/EAN code and symbol. The problem lies with the grocery and drug retailers, most of whom have set up their databases to handle a maximum of only 11 or 12 digits, never including the 13th character off to the left of the EAN symbol (always a zero in the UPC symbol).

During all these years, "foreign" vendors planning to export consumer products for sale by US or Canadian retailers were forced to take several cumbersome steps. They had to apply for a separate UPC manufacturer's number and to separately mark all products coming into this market by either "split-running" the product packaging or post-applying labels before shipping.

One important product group has brought this issue to the fore once again. Publishers of paperback books (so-called mass market books), that are widely sold by supermarket and drug retailers, face a dilemma. The US publishing industry adopted the "Bookland EAN" code and symbol in 1986 and specified that it had to be printed on the back cover of all books. It is based on the EAN-13 symbol and incorporates the universally-accepted International Standard Book Numbering (ISBN) system that appears on all books. Once Bookland EAN was adopted, the American book retailers set up all of their front-end scanning equipment and databases to include full UPC/EAN compatibility.

But because publishers of mass market paperbacks also had to accommodate the important US supermarket/drug retailers (who are locked into UPC only) these books were singled out, in 1986, to include a second, special, barcode format. These retail chains -- supported by their independent wholesalers -- insisted that a price-point version of the UPC symbol would have to appear on the back cover or they would not carry the books in their stores.

The major book retailers -- notably Waldenbooks and B. Dalton -- backed down at that time and agreed to accept that location so long as the Bookland EAN

symbols were also printed on the inside front cover. That compromise situation has prevailed for the past six years -- if you check any mass market paperback in the store today, you will find it carries two different bar codes.

Times change, however. During the past few months, a powerful movement has been launched to have only the 13-digit Bookland EAN printed on the more accessible back cover of all paperbacks and to move the supermarket-preferred price-point UPC to the inside back cover. If implemented, this switch would force all those who cannot read the 13-digit EAN to open the book to be scanned. This change is not only supported by the giant book retailers (Waldenbooks and Dalton), but also by the number one and number two largest retailers in the nation, Wal-Mart and Kmart. (Waldenbooks, by the way, is owned by Kmart.)

In a recent survey by the Uniform Code Council, the supermarket operators said they had no plans to switch to EAN. They further intimated that they would not handle paperbacks, if the product did not have the price-point UPC on the back covers. Kmart countered with a plan to charge back the publishers between $.06 and $.15 per book to recover its costs to relabel every book cover with the Bookland EAN symbol. The publishers have been caught in the middle.

COMMENT

We strongly support the position that all retailers should adopt the internationally-endorsed system and be able to read the 13-digit EAN symbol. EAN is now the accepted norm in 50 countries -- with only the US and Canada sticking with the UPC subset.

In addition, retailers should adhere to the principles of UPC/EAN which were always based on identifying each item individually and unambiguously. Products should not be grouped by price, as required under the current UPC price-point procedures used for paperbacks. The great majority of installed scanners and decoders are either already equipped or easily retrofitted to scan the EAN symbol. The problem lies solely with the databases which must be expanded to the 13-digit format.

This issue has been a sore point in the EAN community for a dozen years. We first wrote about it on these pages in December 1980 -- and many times thereafter. It seems to us that it is now time for some serious action. Here are our minimum recommendations to the Uniform Code Council:

1. *Rename the symbol, to be known henceforth as the UPC/EAN code and symbol, and encourage the International Article Numbering Association to do the same.*

2. *Rewrite the UCC specification manuals to reflect the UPC/EAN 13-digit format. In the US and Canada the extra digit will show up as a zero, always positioned to the left of the bars with the 6-6 grouping of numerals below.*

3. *Notify all equipment, software and systems providers that only those products that are UPC/EAN compatible will be acceptable.*

4. *Establish a target date for compliance by all retailers.*

5. *Disseminate the information aggressively to all retailers and their suppliers.*

If started immediately, it will probably take the rest of the decade to get it fully implemented. If the UCC procrastinates and continues its weak position on this issue, it will never get done.

Visitors will be scanned and rescanned....

....at this summer's Expo 92 World's Fair in Seville, Spain.

The British Pavilion, which opened in April and expects five million guests through October, has installed an automatic identification system to simplify and speed up visitors' requests for further information about the exhibits. Two firms have teamed up to implement the system: Bar Code Systems (Kingston, Surrey, UK) has supplied bar coded registration cards and scanners; Apricot Computers has provided a bank of touch-sensitive color screens, all for the guests to use.

When signing in, the visitor completes the perforated bar-coded registration card and hands it in, keeping the stub which will be scanned when an interesting product or service is requested. Each of the exhibits is equipped with an omnidirectional scanner and a computer touch-screen which prompts the visitor through each step and records the necessary information.

An auto ID system was also used at last winter's Olympic games in Albertville, France, where Telxon provided 200 PTC 620 hand-held microcomputers with built-in bar code scanners. The PTCs were used to insure access control to certain restricted areas and events in the Olympic Village.

Access control -- both in-house and for major public events -- is one of the great natural applications for bar code scanning and the visibility and success of these events is a real coup for the technology.

What's in a name....

....you may ask? Photographic Sciences (Webster, NY) decided that its name "no longer accurately reflects the dominant business of the company." At its May 27 annual meeting, therefore, the shareholders decided that henceforth the company will be called PSC, Inc.

President Mike Hone pointed out that Image Products (film masters and COM form slides -- the company's original product line) now account for less than 10% of sales. Since bar code equipment (scanners and verifiers) is now the primary product group -- and since the company is commonly referred to as PSC in the bar code industry -- management decided to go with the name change.

Personally, we thought the name Photographic Sciences was unique, memorable and appropriately hi-tech -- but time marches on and progress must be served.

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