RECORD MARKET GROWTH FOR U.S. RADIO FREQUENCY IDENTIFICATION EQUIPMENT

According to Frost and Sullivan, Inc. (Mountain View, CA), RFID equipment revenues have experienced continual growth since commercial introduction in the early 1980s. In 1995, revenues for the RFID equipment market reached $138.1 million.

The market can be divided into three groups: Tags (active and passive); Readers (antennas, RF modules and sensors); and Injectors (devices to implant tags into animals or objects).

The tags segment was responsible for the largest share of revenues for the total market, 55.5 percent in 1995 (readers 43.3 percent and injectors 1.2 percent).

The security segment, for example, is currently experiencing the fastest growth of all end-user segments.


Symbol Acquires U. K.'s Largest Systems Integrator

In a move that takes it one step closer to the role of a systems integrator, Symbol Technologies Inc. recently acquired LIS Holdings Ltd., headquartered in the United Kingdom. LIS Holdings is one of Europe's largest systems integrators providing technology-based, logistics-management systems and is also Symbol's largest value-added reseller in the U.K. In 1995, LIS had revenues of $16 million. ([Editor's note: Logistics refers to the process of moving and tracking goods in the transportation, warehousing and distribution industries.]

The acquisition represents a substantial policy change for Symbol because it will now provide systems integration services as well as hardware. With the addition of LIS' software packages and systems integration expertise, Symbol is able to compete with others in the market who analyze customer's ADC needs, design a hardware system, provide necessary software and install complete packages. They can provide "total solutions."

In recent issues of SCAN/DCR (8/23/96 & 9/13/96), we interviewed Nic Toms, president/CEO of Peak Technologies, and Mike Baur, president of ScanSource, both Symbol resellers. Although the two disagree on distribution methods, both agree that providing complete ADC systems for end-users is the key to successful sales.

Thomas Amato, Symbol senior vice president and CFO, engineered the acquisition. We asked Amato if he designed the LIS acquisition to improve Symbol's ability to compete worldwide with companies like Peak and ScanSource. After repeated questioning, Amato insisted that Symbol is not trying to compete with VARs and distributors who sell Symbol products.

"We [Symbol] believe that logistics management offers the greatest potential in the global ADC market," Amato stated. "The acquisition of LIS gives us the ability to provide customized solutions for major players like UPS, FedEx and other companies who require total solutions to logistics problems. We are not trying to compete with our resellers."
However, we will partner with them on projects if necessary. We would like to play the role of project manager."

LIS develops software for real-time material control [the monitoring of material flow through a manufacturing environment or along a supply chain], as well as route accounting and field reporting. It has three locations - its headquarters in the U.K., one in South Africa and one in Charlotte, SC (USA). The company's products include Dispatcher CS™, a client/server warehouse-management system for large-scale distribution centers and warehouses; Delivery Point™, a proof of delivery system; Store Trak™, a stock management system for small to medium-sized warehouse operations; and LOMAS™, a transport-logistics-management system. All are ISO 9001 [International Organization for Standardization] documented and will be available to Symbol resellers.

Terms of the acquisition include an initial payment of $20.9 million and subsequent payments ranging from zero to a total of $7.8 million, contingent upon LIS achieving 15% to 30% annual revenue growth over the next three years. Symbol will take an acquisition-related charge in the current quarter of approximately $13 million pre-tax, or $.30 per share after taxes, to cover integration costs and acquired, in-process research and development.

LIS will continue to function, under the new name Symbol LIS, as a separate business unit within Symbol. The systems integrator/software provider will retain its current management structure and its headquarters will remain in the U.K. The U.S. facility and its site in South Africa will continue operations as well.

Commenting on the acquisition, Tomo Razmilovic, president and chief operating officer of Symbol Technologies stated, "Transportation, distribution and logistics generally comprise the fastest growing market worldwide for Symbol Technologies. Through our acquisition of LIS, we enhance our capacity to address it. We plan to build on the strength of our global distribution capabilities by making Symbol LIS products and services available to our customers through both direct and indirect channels."

Dr. Jerome Swartz, chairman and CEO of Symbol Technologies, sees Symbol's wireless local area network (WLAN) as a growth area for Symbol LIS. He said that LIS' products and services match perfectly with Symbol's plans to market its radio frequency wireless LAN systems.

Ian Shepherd, president and CEO of LIS, stated, "LIS has benefited from working closely with Symbol for a number of years. This acquisition will permit us to significantly expand our business." Shepherd also said that access to Symbol's global sales and distribution network and the addition of Spectrum24™ products [Symbol's radio frequency system] will enhance LIS' position in the logistics arena.

The acquisition of LIS will allow Symbol to target the electronics manufacturing, public utilities, port and cargo
management, pharmaceutical and chemicals, paper and publishing, food and general retail, and automotive industries.

Comment: When the largest company in the ADC industry makes a drastic shift in policy, it sends signals to all the major players in the data capture arena. Symbol realizes that to continue to grow, it must address "all" the technological needs of major end-users like UPS, FedEx, JC Penney, etc. To compete for these accounts, ADC product manufacturers must offer systems integration services either directly or through distribution channels.

The radio frequency market offers the greatest growth potential for ADC vendors and resellers and is very important to Symbol. But without the ability to offer software as well as hardware solutions, Symbol could never reach its fullest sales potential in this market. The rapid growth of Peak Technologies and ScanSource is evidence of the importance of providing one-stop-shopping. It will be interesting to follow the acquisition strategies of other ADC vendors to see if they emulate Symbol's actions.

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New Hand-Held Printer/Scanner/Data Collector Saves Big Money For End-Users

Whenever a new product is introduced which expands the envelope of what exists, we report on it. The new Pathfinder®Ultra™ hand-held, portable printer/scanner/data collector from Monarch Marking Systems is one of those products.

There are a number of things we feel make the new product "special." What impressed us most is that users can now perform three functions with one hand-held product. ADC customers in the retail and warehousing industries often find that they need to re-label products and inventory. Most products today are routinely shipped with bar codes that identify what is in the package. But for retail and inventory purposes, these ADC users need to record data from the original label, then apply new labels with bar codes that contain customized information that pertains to their businesses.

Until now, users performed these re-labeling functions with a hand-held scanner, connected by cable, to a printer worn on the user's belt. After the user scanned the original label, he had to reach down to his side to get the new label from the printer on his belt and struggle with the scanner while applying the new label.

This new product scans, prints and applies the new label using one hand-held unit without the burden of cables. Monarch engineers did a comparison study and found the unit to be 89% faster than performing re-labeling functions by conventional methods.

The elimination of cables associated with conventional methods of bar code re-labeling in the retail and warehousing environment is also a major plus for end-users. The failure-rate for the cables is 125% per year. The cables have small pins that plug into portable PC products. These pins are very delicate and often break off in hand-held units, causing downtime and expensive repair.

The PathfinderUltra prints all popular bar codes, plus text and graphics on the labels, tags, coupons or receipts. The device may be ordered with up to 512K of memory, 4-Meg of RAM and a 32-bit processor. An application kit enables users to write application software in a Windows environment. The unit's transfer module is the communications link to the printer and a PC. The database module creates database files which can be downloaded to the printer's memory or to collect and store uploaded [information accessed with the scanner] data. The new product includes a built-in, programmable, laser scanner and data collector.

The applications for the new unit were also interesting. The unit was designed to work well with U.S. Postal Service (USPS) bar codes. Some of the product's features are:

* Prints all USPS tray labels to spec
* Handles all classes of mail
* Prints custom labels, such as "Foreign"
* Prints up to 99 duplicate labels

In the first year on the market, Monarch sold 2,500 units. Over 1,000 of those sales were during August 1996. Because of its compatibility with USPS codes, the unit functions well for presorting mail. This saves money for major end-users like credit card companies, department stores [who send out credit bills], and other major retailers who do bulk mailing.

AIM USA Satisfaction Survey
To Determine The Association’s Future Direction

Since the sale of the SCAN-TECH trade show in 1993, AIM USA has struggled with the dubious task of creating a new identity for itself. The transition from trade show promoter to market creator has been a difficult responsibility for president/CEO, Larry Roberts and he and the AIM staff are asking for help.

In a recent interview, Roberts told us that he is looking for direction from members with respect to how the trade association can develop new markets. To solicit this type of information, AIM plans to survey its members by asking them to rate the trade association’s performance and offer ideas about the future direction of AIM marketing programs. The survey is also a response to the dissatisfaction expressed by some members during a brainstorming session at AIM’s mid-year meeting (SCAN/DCR 7/12/96).

So why the confusion among the AIM staff? It started when the organization was caught in the whirlwind surrounding the sale of the SCAN-TECH trade show to Reed Exhibitions in August of 1993 (SCAN 8/93). At that time, AIM members apparently felt it was time to make the transition from a trade show organization to one that was more “market-driven” [even though SCAN-TECH was a great source for new business]. We say “apparently” because, while the sale was a consensus by members during a brainstorming session at AIM’s mid-year meeting (SCAN/DCR 7/12/96).

A number of consequences occurred as a result of the SCAN-TECH sale. The first was revenue loss. The sale of the trade show stripped AIM of its main source of income without offering a replacement. The result has been a rollercoaster ride in the organization’s financial position which is only now leveling off. [See: Revenue Impact of SCAN-TECH]

The second event involved the change in AIM’s organizational structure. Immediately following the SCAN-TECH sale, a strategic planning task force reaffirmed members’ desire for AIM to focus on market development/market making activities. The task force also recommended that day-to-day management authority for the organization reside with the chief-paid-staff executive. As a result, the title of the chief-paid-executive was changed in the bylaws from “executive director” to “president and CEO”. Another bylaw change was that the Board of Directors should be comprised of only senior-level executives from member-firms.

According to Roberts, these bylaw changes may have caused unexpected problems. Roberts stated, “The association has been and will always be member-driven. However, it appears the perception within the membership is that the association changed from member-driven to staff-driven when the bylaws changed to put day-to-day management authority in the hands of the president/CEO. I believe this perception is why a number of the members are asking, ‘What are you going to do for me?’ rather than ‘What can I do for the organization?’.”
This perception problem intensified when in 1994, AIM was forced to change its dues-structure [the third consequence] to make up for the lost SCAN-TECH revenue. It became clear to members and staff that AIM needed to do something quickly to enhance revenues or cease to exist. With no plan for revenue replacement after the SCAN-TECH sale, the only immediate way to increase revenue was to raise member dues. At the time, each member paid a flat $1,200. The budget for 1995 called for a significant increase in dues. Fearing that members would balk at the drastic increase, the Board decided to phase in the increase over three years. This meant the association would have a budgeted deficit of $500,000 for 1995.

It was not long [in 1995] before the Board realized the phase-in process would not adequately solve the monetary problems of the organization. The Board revised the dues-structure, adding a number of new dues categories [this was done by adding new sales-dollar volume increments] and eliminating the phase-in of the higher fees [see chart below]. These changes, in addition to some severe cost-cutting measures including reducing staff positions by 2.5 (through attrition), resulted in a projected deficit of $37,000 for 1996. However, the Board asked staff members to do whatever they could to outperform the budget projections with a goal to break even. The staff not only met the goal, but as of today, the association should end 1996 with a surplus in the $30,000 range [in spite of new expenditures allocated by the Board in June 1996 totaling nearly $60,000].

In 1995, the newly-elected, senior-executive Board took over. Roberts confided, "At their first meeting [in February 1995], the Board had to decide if AIM should continue representing all ADC/ID technologies or revert back to a bar code only association. The Board decided to continue representing all technologies. My job was to develop an organizational structure that reflected AIM's representation of all technologies and allowed each technology group to drive its own activities."

From March - June of 1995, Roberts worked on the new structure and introduced it at the mid-year meeting. The new divisions would focus on market development, rather than technical issues. The membership approved the organizational structure and AIM started the implementation process. In December, the membership met for the first time under the new organizational structure.

To AIM's credit, it continued to produce meaningful results even during this turmoil. The former QR event [Quick Response - a retail-oriented, mini, trade show] was totally re-engineered, including a name change to IQ. Attendance increased by 33% and revenues doubled. But not all of the show's increased revenues dropped to the bottom line because it took almost double the expense to produce those results. AIM also produced two new standards for DataMatrix and MaxiCode, and drove the efforts to form a sub-committee focused on developing ISO [International Organization for Standardization] standards for the automatic data collection industry. AIM USA became the U.S. Technical Advisory Group for this sub-committee.

According to Roberts, this could be a record year for membership recruitment. The organization has recruited 31 new members to date for a total of 171. Retention of existing members is over 86%, which is unusual for an association that experienced a drastic dues increase.

AIM has come a long way in its search for a new identity. It has hurdled many obstacles, but now must define its new "market-driven" focus. The key questions are:

- Where should the association focus its attention?
- What are the most important products and services the association currently offers and how many members are getting value from them?
- What other products and services should the association provide?
- What do the members want most?
These unanswered questions led to AIM’s decision to produce a satisfaction survey. The Board of Directors expects the survey results to provide the data to help set the future direction of the association. The survey will be mailed within weeks.

Comment: Although Roberts and the AIM staff have overcome many obstacles, their biggest challenges may still be ahead. It is difficult (if not impossible) to get 100% agreement within any organization and AIM is certainly no exception. If anything, it is harder for this organization because of the many diverse technologies it represents.

Members who have criticized AIM for leaning “too much toward the technical side of the industry and not enough toward the marketing side” are missing perhaps the most important concept of all - open standards increase sales and open new markets. Without open standards, the industry will never mature to its full potential.

The same is true with the development of meaningful statistics. If we as an industry want investors and new customers to support our businesses, we must be able to provide concrete, accurate information so they can make sensible purchasing and investment decisions. But it will not be easy to persuade an entire industry to relinquish the competitive knowledge it values so highly. (Note - AIM has decided to let NEMA, the National Electrical Manufacturers’ Association, conduct the statistics research, analysis and dissemination, if members decide to continue the endeavor. NEMA has experience in conducting this type of survey and a staff large enough to take on a program of the magnitude proposed by AIM members.)

AIM’s challenges will be to rally its members around its new programs and to convince them that open standards are key to industry growth.

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Telxon And Symbol Rattle Sabres Over Pending Lawsuit

Although Telxon officials did not wish to elaborate on the company’s lawsuit against Symbol Technologies, a high-ranking source from the company told SCAN/DCR the four key points of the complaint filed in U.S. District Court for the Northern District of Ohio. The complaint alleges violations of Section 43 (a) of the Lanham Act, which concerns claims of false and misleading advertising.

The four alleged violations are:

1.) Symbol publicly claimed that Direct-Sequence (DS) [as opposed to frequency-hopping (FH)] radio frequency LAN [local area network] systems are obsolete and not supported by IEEE 802.11 Draft 4, the proposed standard for interoperability between radio frequency LAN components. [Editor’s note: Direct sequence technology has been a major part of Telxon’s RF product-offering. Telxon has over 325 thousand units in the field.]

2.) Symbol stated publicly that Telxon will have a six to 12 month lag in the release of an FH IEEE 802.11 D4 compatible RF system.

3.) Symbol has taken liberties from a June 24, 1996 press release which stated that Telxon, Aironet Wireless Communications and Symbol Technologies were “working together” toward interoperability. [Specifically, Symbol made claims concerning the interoperability of its products with those of Telxon and Aironet.]

4.) Symbol stated publicly that it has had an FH/RF system on the market for a year that will meet IEEE 802.11 D4 proposed standards with a software upgrade.

We spoke with Symbol Technologies’ Rich Bravman, senior vice president - mobile & wireless systems division, for a response to the allegations. Bravman contends that Symbol would have no logical reason for stating DS radio frequency LAN systems are obsolete because DS technology still accounts for a “significant majority” of Symbol’s sales [the Spectrum One DS radio]. He also believes that DS units will continue to be an important part of Symbol’s sales for at least the next three years and listed several reasons for DS technology’s continuing popularity.

One of the reasons for direct-sequence technology’s continued popularity is that it has been on the market for six years, so there are many more peripheral products that work with DS radios. By comparison, frequency-hopping technology has only been available commercially for about one year, so end-users’ choices of compatible products are much more limited.

Also, ADC sales people and VARs are more familiar with direct-sequence technology than they are with frequency-hopping technology, and are therefore more likely to sell this type of system. And, RF system connectivity favors DS technology. Consequently, Symbol would have no reason to say DS technology is obsolete. Bravman pointed out that IEEE 802.11 D4 supports direct-sequence as well as frequency-hopping systems.
However, Bravman did not want us to misunderstand Symbol’s view on frequency-hopping technology. Bravman told us that FH technology currently has more momentum in the marketplace and Symbol believes it will ultimately be the dominant technology. He stated that Symbol’s main customers have been insistent on interoperability and from that respect, it makes more sense for these customers to choose frequency-hopping over direct-sequence technology.

Addressing the second point in the complaint, Bravman told us that Symbol has been shipping FH radios in commercial quantities since October of 1995. He said that to his knowledge, Telxon just recently started shipping its new FH radio and this has only been in small quantities. Because of this, Symbol contends that it has a six-12 month lead in the development of FH technology.

Commenting on Telxon’s claim that Symbol has taken liberties from a press release proclaiming the two companies [and Telxon’s subsidiary - Aironet] were working together toward interoperability, Bravman stated that Symbol stands firm in its belief that compatible systems are key to the success of all manufacturers of radio frequency products. He reiterated that RF customers insist on interoperability and Symbol is committed to a goal of “mix-and-match, open-systems.”

On the fourth point of the suit, Bravman stated emphatically that Symbol’s Spectrum24 frequency-hopping radio [which has been on the market for a year] is upgradeable to the latest IEEE 802.11 D4 specification. He told us the radio was engineered to IEEE 802.11 D2 with the assumption there would be more changes to the specification.

Because of this, Symbol designed the radio to be software-upgradable to meet future adaptations made by the IEEE 802.11 committee. Since the committee has approved Draft 4 of the specification, Symbol is developing software to upgrade its radios to comply with the latest version of IEEE 802.11. Future versions of Symbol’s hardware will meet the specification before it reaches the customer.

Comment: Certainly, neither Telxon nor Symbol wants to argue their cases in the press and SCAN/DCR would not want to act as a judge. We take no sides in the matter. However, when the two largest companies in the ADC industry are at odds, we feel it is important to give our readers the most accurate information available to dispel unfounded rumors.

Court battles such as these are smudges on the face of the entire industry. There are no winners - only losers. Telxon and Symbol are industry leaders. We believe a quick settlement of their differences will be in the best interest of both companies and the industry as well. Their time would be better spent developing improved technology, rather than fighting in court.

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## Norand To Pay $9 Million In Settlement

The Norand Corporation has signed a preliminary agreement to pay $9 million in cash and stock to settle a class-action suit filed against the company, several current and former officers, and its accounting firm, Arthur Andersen LLP, over alleged securities violations. Admitting no wrong doing, company officers stated they could not afford the time loss associated with a long, drawn-out, legal battle. They felt it was in the best interest of the company and its shareholders to settle the matter and devote management’s time and energy to running the business.

In 1995, three separate lawsuits were filed against Norand and a number of its officers by shareholders/investors who had purchased company stock during the 14 months from September 1994 to November 1995. The lawsuit alleged that Norand violated security laws by failing to disclose financial performance results in a timely and accurate manner. Eventually the three lawsuits were consolidated into one class action suit on behalf of the shareholders.

The settlement, which calls for the payment of $4.5 million in cash and $4.5 million in Norand stock, is subject to confirmatory discovery [document review and the taking of depositions] and approval by the District Court. This follows a notice to the class and a hearing on the fairness of the settlement.

The cash portion of the settlement is covered by insurance. When it comes to the stock portion of the settlement, the company has the option to pay $4.5 million in cash instead of issuing the stock. The settlement will result in an approximate $4.8 million charge, including legal costs, against Norand’s fourth quarter earnings, related to the portion of the settlement not covered by insurance.

On September 25, 1995, Norand announced it had discovered irregularities during the course of the year-end audit at the company’s Italian subsidiary. At that time, the managing director of the Italian subsidiary was removed. The company’s
investigation of the irregularities in its Italian subsidiary continued following the announcement. The investigation subsequently revealed a complex set of irregularities, which took place over a period of time. Third parties, some of which were associated with the former managing director, facilitated the irregularities.

Because of the irregularities discovered during the investigation, Norand had to restate its 1994 and 1995 financial reports. As a result of this restatement, Norand recorded in 1994 and 1995, certain pretax charges and costs related to sales returns. Also recorded were inventory losses, local sales taxes on overstated revenues and sales which may not be recoverable, professional costs for the investigation, and the settlement or anticipated settlement of numerous third party claims against the Italian subsidiary. Costs related to the irregularities included in the original 1995 and 1994 financial statements amounted to $8.3 million in 1995 and $1.5 million in 1994.

The lawsuit was over the company’s 1994 fiscal year-end and 1995 first quarter reports. After the end of the company’s 1995 fiscal year, Norand found accounting irregularities in its Italian subsidiary’s reports. Upon announcing the discrepancies, Norand’s stock dropped by nearly 50% to $17 per share. Norand followed up on the discrepancies and restated its 1994 fiscal year-end and 1995 quarterly reports.

The managing director of the Italian subsidiary engaged in a complex scheme to inflate sales figures. This made his subsidiary appear to have more sales than it actually did. The consequences of the scheme included inflated revenues and inventory error which had to be corrected.

Speaking for Norand, James I. Johnson, general counsel for the Corporation, said, “Company officers decided to settle the suit because of the time and money involved in the litigation process. Litigation would have kept them in a court battle rather than at their jobs where they belong. They wanted to put the matter behind them and move on. Our business is building product for the data capture industry, not fighting litigation battles in court.”

Comment: In the last year, Norand has experienced a number of problems in their manufacturing processes as well as in court. They have reduced their workforce (including the termination of three vice presidents) and made changes in their manufacturing lines. And in their last quarter, the company returned to profitability.

We believe Norand is ready to put their problems aside and get back to the business of building ADC products. However, we still wonder how the managing director in their Italian subsidiary was able to create false sales figures without their knowledge. Norand was shipping product to Italy to fill the fake orders. Where was the equipment going and how could Norand overlook the lack of payment for the hardware they shipped? There is a definite need for a system of checks and balances to stop this from ever happening again.

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