



newsletter

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

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There had been quite a flurry....

....in Europe over a new type of scanner which some viewed as a potential threat to the EAN/UPC bar code scanning in supermarkets. It started with a press conference that was held by Scantron (Offenbach, Germany) at which time the company announced a new type of Optical Character Recognition (OCR) scanner.

Unlike the standard type of OCR handheld pens, the Scantron unit is a slot scanner similar to the supermarket bar code scanners. The package, printed with OCR characters, does not have to be oriented in any direction. The device is reported to be able to manipulate the image of the OCR code, and capture the data. When passed over the scanning window, the package must be held fixed in one position for about a half-second.

Battelle Institute in Germany has been working with Scantron for about three years to develop this technique. At the press conference it was announced that the first working prototypes would be available by February 1980 for a six-month field test. Possible production units would be available in 1981.

Comment

The device sounds similar to prototypes that were developed by an American company in the early 1970's. This was originally a contender for the supermarket scanner before UPC was adopted. It was not accepted at that time for the same reasons that this unit will probably not replace the EAN/UPC bar code scanner. For one thing, it is slower. More importantly, the reading of OCR characters has always been inherently more critical than bar codes. Marginal printing, voids, wrinkled packages, choice of colors, and the wide variety of problems incident to printing a readable symbol on a package, all suggest that OCR will not be able to contend with the supermarket challenge.

Based on the very limited information available, a few European trade journals announced the imminent demise of the EAN symbol, causing concern among a few supermarket operators and trade associations.

Any real evaluation of this device, however, is at least one year away. The system will have to demonstrate its ability to read a bag of potato chips, a package of frozen vegetables and other irregular surfaces, before there will be any real impact on the current scanning technology for supermarkets.

Certainly this new development should be closely watched, in particular for applications in department stores and other types of retail outlets that have adopted OCR scanning.

There may be an important new entry....

....of a bar code slot scanner for EAN/UPC. Microcomputer Systems Corp. (Sunnyvale, CA). has announced they are now marketing a new scanner, after a 12-month development period by an engineering team, "all of whom have prior experience in the design and manufacture of UPC scanners." Carl Backe, Program Manager, Bar Code Scanner continues, "Our scanner has been designed to be compatible with all the supermarket POS system manufacturers. We anticipate a pre-production start up to manufacture this product in the fourth quarter of this year."

The specifications for the scanning system and its features include a self-contained symbol reader, ability to read both UPC and EAN symbols, scanning speed of 100 inches per second, up to four inch depth of field for minimal symbol size -- greater for larger symbols, and a first pass read rate of 95% or better.

MSC was first organized in October 1974, and its founder and current president and chairman is James S. Toreson. Significantly, Toreson's last position, prior to forming MSC, was as engineering manager of the Electronic Label Reader Division of Spectra Physics. This should make MSC the only other independent producer of laser scanners for supermarket systems. MSC also produces a wide range of peripheral computer products.

The installation of new UPC scanning systems....

....in the US and Canada totalled over 1,112 systems by the end of August. That month's total was 87 additions. The tally by system manufacturers was: IBM - 35; NCR - 27; Datachecker - 20; Sweda - 4; Data Terminal Systems - 1.

It was also interesting to note that the major supermarket chains are becoming more active. The three largest chains were all represented in August. Safeway installed 5 new systems, Kroger installed 8 and A & P had 1. Ralph's, which installed 6 new systems in August, also announced that they will be the second US chain to be 100% scanning, and expect to complete their program in 1980. Ralph's has been one of the more aggressive scanning chains and now predicts that in 5 years all stores doing \$2 million per year or more will be scanning. They believe that those stores which do not install scanning systems "should resign now and make way for those willing to face the challenges of change."

A local newspaper reporting on a new scanning installation in Ottawa, Canada, interviewed some of the customers as they left the store. Almost all of them liked the detailed receipt that they received, and the general reaction to the new Sweda system was favorable -- even from the consumer who didn't notice that there was a new system installed.

Tom Wilson of McKinsey & Company was badly misquoted....

....in the August 20 issue of Supermarket News on his presentation to the Cooperative Food Distributors of America Conference in Reno.

The article suggested that the long-awaited UPC symbol for bulk cartons is

about six months away and that Wilson feels there are no further hurdles to be cleared. It also stated that a shipping container symbol agreement would solve all of the variable weight case code problems.

Wilson was a bit upset and sent a letter to the UPC Board of Governors clarifying these points. He reported, "What I actually said was that a technology necessary to print symbols on shipping containers was well known and that our task was to determine which of several potential candidates should become the standard."

Regarding the variable weight case code problem, he went on, "This is so obviously incorrect I doubt it will mislead anyone who may read it."

There is a continuing desire....

....by package designers to integrate the EAN/UPC symbols into the artwork. The latest example we saw was a foil cheese package from Europe with a cow peering from behind a fence. The fence posts were, of course, the bars of the EAN symbol.

Some supermarkets are becoming a bit annoyed with the extra time it takes for the checkout clerks to find the symbols hidden among the four-color package designs. This is particularly apparent on some magazine covers where the UPC symbol is printed directly over the cover art.

There are basically two approaches to this:

1. Try to make the symbol as small, and/or as colorful as possible, and blend it into the art so it doesn't look ugly.
2. Resign yourself to the fact that nothing will make the bar code look pretty, and it is so ubiquitous, that no one "sees" it anyway.

There is no question but that the retailers prefer an easily recognizable symbol, printed large enough and with sufficient color contrast so that it can be quickly located and scanned the first time.

Continuing our history lesson....

....started in the August issue and continued in September, N. J. Woodland of IBM, sent us the patent which was basic to the Bullseye symbol system used by Zellweger and RCA.

The patent was filed in October 1949 and issued in October 1952 and lists as the inventors, Norman J. Woodland and Bernard Silver. This, therefore, would seem to be the granddaddy of them all. The patent number is 2,612,994 and is available from the United States Patent Office in Washington, DC.

Supermarket scanning activities....

....are moving along a little more rapidly in the United Kingdom, at least insofar as public relations are concerned. On September 19th, Fine Fare had a big to-do at their store in Hyde where they opened one "demo" scanning lane.

It was placed to the side of the regular checkout lane and was not really operational. Since there are very few source-marked EAN symbols on packages in the UK, Fine Fare used a velocity code on labels placed on their own private-label merchandise for the demonstration.

The scanning system was installed by NCR and will continue for about one or two months. There were elaborate ceremonies attended by Mrs. Sally Oppenheim, Minister of Consumer Affairs, and a great deal of publicity attended the first showing of a supermarket scanner.

Sainsbury, another major chain, continues to announce that they will be one of the first to be operational next year but Fine Fare may have stolen some of their thunder by this somewhat premature demonstration. And there is still word that Key Markets may install an IBM system before the end of the year, although there has been no definite word as yet.

We learned a great deal....

....about the history of railroad bar code scanning from David Collins, President of Computer Identics. Adopted in September 1967 by the American Association of Railroads (AAR) as a mandatory regulation for all freight cars, the system was to be fully operational by the early '70's. Every freight car in the country was to have a 3 color bar code affixed to its side and scanned at key switching points.

Ultimately 92% of all the freight cars were labeled, and at the peak of the operation there were over 400 scanning locations installed with a reported successful read rate of 83%. The projections at that time were that there would be 10,000 scanners located throughout the United States, and that each would cost approximately \$12,000.

The original patents for the system were developed by Sylvania, which never pursued its commercial application, and ultimately agreed to license other companies. Computer Identics was one of the licensees and formed Automatic Car Identification (ACI) to produce and market these devices.

Some of the installations were enormously successful and the accurate recording of the movement of freight cars improved car utilization and billing accuracy, according to Collins, "It was the ultimate achievement in scanning, providing for the timely management of freight cars."

Problems started in the early '70's. The Southern Pacific Railroad (SP) had never been a supporter of the system and actually refused to place the bar code labels on their cars, although it was mandated by the AAR. Southern Pacific is a major constituent of that organization and their opposition carried a great deal of weight. Things came to a head when ACI thought it had sold the system to Mexico for their railroad system, and SP stepped in to convince the Mexican group that the system was not suitable. As a result of this intervention the hand shake contract was cancelled.

There have been no new labels applied to the freight cars since 1975 and the last label maintenance was performed in 1974. It was label maintenance that became the major point of contention between those who said the system will work and those who opposed it. Labels were supposed to be cleaned periodically -- about once every few years. When they were not, scanning efficiency

dropped. Southern Pacific used this as evidence of the poor performance of the system.

Finally the AAR backed down and the system was abandoned. It had become a political problem when it was learned that SP was backing one of their own subsidiary companies which had a competitive system. Collins, who believes that economics are sacred, calls this a "crime against economic history". Computer Identics filed suit for \$150 million in October 1976 and Collins believes that the elapsed three years has taken them just past the half-way mark. Their goals are not only to collect damages, but more importantly, to reinstate the technology.

Talking to Collins, one is convinced that there is something of the crusader in him and that, aside from the economic damages he is striving to obtain, there is a great deal of principle involved. If bar code scanning wins out, he views this as a classic episode in the annals of business and economic history.

We are always on the lookout....

....for new and innovative uses of bar code scanners. David Collins of Computer Identics sent us one the other day.

Both the famous Boston Marathon and the newer New York Marathon will employ bar codes and scanners to record the running time for each of the entrants. Each runner will have a bar code label on the number tag pinned to his or her chest. The system works as follows:

1. As each runner crosses the finish line, a bulb is squeezed recording the time and holding that time in memory in sequence.
2. The runners then line up and file down a "chute" where their codes are scanned by a Computer Identics handheld scanner, in the same sequence that the times were recorded.
3. The recorded time and the scanned label number are matched up in the computer and the results are available within minutes.

It used to take days to record the finishing time of all the runners in these marathons. The task is a monstrous one, with as many as 13,000 runners, for example, entered in the New York Marathon, scheduled for Oct. 21.

The timer/computer/scanner system has been packaged by Honeywell which, as one of the sponsors of many marathons and mini-marathons, provides this service free-of-charge. The New York Roadrunners, the organizers of the New York run, have purchased their own equipment and have set up their own system. If you look carefully at the TV, magazine and newspaper reports of the marathons, you may be able to see the bar codes on the chests of the runners as they go by.

We really like this one!

A significant milestone....

....was announced by MSI Data Corporation. The (Costa Mesa, CA.) company,

which claims to be the original developer of portable data-entry terminals and the largest manufacturer of such terminals, produced their 100,000th terminal on September 14th.

At a meeting of the 500 MSI employees at the company's headquarters, William J. Bowers, founder of MSI and now its Chairman and CEO, recalled that the first unit developed 12 years ago weighed more than 140 lbs. and was portable only because it was mounted on a wheeled vehicle the size of a shopping cart. As now used in the supermarkets for entering reordering data for an entire store, the MSI/88 handheld terminal weighs about 1 lb. and can complete the job in 1-3 hours. After capturing the data the clerk transmits the information to the headquarter's computer via telephone, using an acoustic coupler.

MSI has been going through some personnel changes and announced that Charles Butler has joined the company as VP-Finance; Murray Robinson has been named VP-Operations; and Charles Bush has been named President of Chase Computer, subsidiary of MSI.

Intermec has introduced a new bar code printer....

....for producing Code 39 bar code tags and labels. Priced under \$4,000, the Model 8220 printer prints a bar code symbol with human readable interpretation plus an additional line of text.

Data input to the Model 8220 is via an RS 232 serial interface. The printer can run on line with a computer or operator in a conversational mode from a customer-supplied CRT terminal. The Model 8220 uses a dry carbon ribbon to produce characters with high optical contrast and sharply defined edges for optimum readability, the company reports. Character spacing for Code 39 is 9.4 characters per inch with a variable length label. The unit is compact and occupies minimal table top space. Intermec is located in Lynnwood, WA.

For those attending....

....the Converting Machinery/Materials Conference & Exposition (CMM 2) in Philadelphia (October 15-18, 1979), there are a few booths which have displays related to scanning:

- o Converters Design & Art Enterprises (Booth #1300) will demonstrate Symbol Technologies' Laserchek UPC verifier.
- o Sick Optik-Elektronik (Booth #1005) will show a variety of scanning devices for inspection, measurement and monitoring.
- o Skan-A-Matic (Booth #147) will have their EAN/UPC Verifier, bar code readers and photoelectric sensors.

This is an every-other-year show which will have over 700 booths and a wide variety of packaging related equipment and supplies.