Volume I  Number 6                                              February 1978

## At the NRMA Convention....

....on Jan. 8-11 at the N. Y. Hilton, bar-codes were almost non-existent.  We looked carefully, however, and found the following of interest to our readers:

-- Data Terminal Systems demonstrated its prototype 540 Scan-A-Lone super-market checkout system with scanner (SCAN Jan 78).  It stood alone in the corner of a room filled with their electronic POS terminals for mass merchandisers.

-- Sato Corp., a Tokyo-based company, demonstrated label imprinters for both OCR and UPC.  The UPC models print the shortened Version E and LAC only, and are not capable of full size symbols.  The hand-imprinter/labelers are priced at $700-800; the automatic imprinter at $2,000.

-- Recognition Products Inc. is committed to OCR only, and it was interesting to hear their salesmen predict that it's just a matter of time before OCR will replace all bar code applications as well.  The full system R.P.I. approach provides wand scanning inventory recording, data transmission and analysis reports.  Their portable scanners, however, still include a fairly heavy battery pack requiring frequent recharging.  Recognition Products is probably the leader in the field with installations in the U.S. Postal Service and many industrial applications, in addition to retailing.

-- Chase Scanning is a service-bureau type of operation which supplies the retailers with OCR wand scanners.  The cartridges are then sent to the company for analysis and management information reports.

-- Other equipment, including POS and scanners, was shown by Dennison, MSI, Sweda and NCR.

## Monarch Marking Systems was also at the NRMA....

....as a lonely voice dedicated to bar-code scanning.  There were a number of displays using Monarch's Codabar in a wide variety of applications including retailing, manufacturing, distribution and service.

Tom Loemker, President of Monarch, was very bullish on the advantages and future potential of bar-codes.  He believes that both bar-code and OCR scanning will prosper where each has its strengths and technical advantages.

Codabar was developed and patented by Monarch, but placed in the public domain in the early 1970's when it was submitted for consideration as the symbol to be used for the supermarket UPC. There are now a number of companies marketing equipment for the imprinting and scanning of Codabar, but Monarch retains and controls its unique decoding algorithm which, it claims, is more efficient and error-proof than other systems. Azurdata is one company which has been licensed to use the Monarch decode algorithm in their portable order entry terminals. Codabar is probably the most widely used of all bar-codes, with the exception of UPC, and is currently one of the "finalists" under consideration by LOGMARS for the Department of Defense.

Bob Genton, Monarch's Eastern Regional Manager for OEM sales, described two new installations, now in final test, utilizing Monarch's Comparison/Verifier Terminal. Printed Codabar labels are scanned and compared to a key-entered message in the unit. In a second procedure, labels affixed at opposite ends of a shipping container are read and compared to insure they are identical.

## The NRMA and UPCC have met....

....to discuss possible ways to make their systems more compatible. In particular, the NRMA, and its technical advisors from the Computer Business Equipment Manufacturers Association (CBEMA), met with the Symbol Technical Advisory Committee (STAC) in December 1977. Although not too much progress was reported, they are exploring the possibilities for incorporating OCR-A characters as part of the UPC symbol, or printed nearby. Each group is totally convinced that its system best serves the needs of its industry, so there is no thought of any radical or far-reaching changes. But if some means can be developed to read one overall marking format with both bar-code and OCR scanners, it would resolve the dilemma faced by the hundreds of manufacturers with crossover products.

### COMMENT

*At the moment everyone is treating these contacts with a great deal of secrecy and very little optimism. We hope the reasons aren't political or self-serving and that everyone concerned accepts the realities of the situation. Bar-codes work best in the supermarket environment with slot scanners and the large number and variety of products at checkout; OCR is most suitable for the extended number systems, man readable requirements and wand scanners used in department stores. At this point, cooperation will help both groups.*

## When comparing bar-code and OCR scanning....

....and the cost efficiencies of each, Jim Bianco of Control Module points out an essential difference: Bar-code scanning is one-dimensional; OCR scanning is two-dimensional. Because of this:

1. Bar-code scanners need a single element head; OCR scanners require multiple sensors.

2. OCR scanners need more power; portability is therefore limited by heavier battery packs and more frequent recharging.

3. OCR becomes inherently more expensive.

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*                        LATE BREAKING NEWS ITEM                            *
*                                                                           *
* London - The Article Number Association (ANA), Great Britain's administrators *
* of European Article Numbering (EAN), launched its official activities at a *
* meeting on Jan. 26.  The preliminary reports indicate most of the speakers *
* sounded somewhat caustic.                                                  *
*                                                                           *
* The manufacturers anticipate higher costs, expect to initially source-mark *
* only their new products and packages, and want assurances they will get feed- *
* back on product movement data from the retailers.  The retailers indicate they *
* will be concentrating on ECR systems without scanners for about 2-3 years. *
* And the printers, who, of course will do anything their customers demand of *
* them, insist they will raise their prices to cover increased costs.        *
*                                                                           *
* We have a distinct feeling of deja vu!                                     *
*                                                                           *
* (There will be more detail in the March issue.)                           *
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4.  Bar-code scanners have fewer breakdowns, a longer MTBF and better accuracy.

Bianco believes there will be technological advances which will improve the
efficiency and lower the costs of both systems; but the one-dimensional vs
two-dimensional difference should provide a continuing economic and perfor-
mance advantage for bar-code scanning.


There was a considerable amount of spirited response....

....to our articles on Tom Wilson (McKinsey & Co.) and on the contract termina-
tion of Distribution Codes, Inc. (SCAN Jan 78).  Both Wilson and DCI were
major parts of the early development and implementation of UPC, and it was not
unexpected that there are many who disagree with some of the decisions that
were made.  For example, some of the questions raised:

--  What caused the lack of communication between the industry and consumer
    groups which tended to aggravate a difficult situation?  There were indi-
    cations that the Uniform Product Code Council (UPCC) totally misunderstood
    the importance of public relations to the success of the program.  A little
    more investment in time and effort to maintain early contact with consumers
    and labor unions may have avoided many of the problems in 1974-76.

--  Why haven't the UPCC (representing the grocery retailers) and the National
    Retail Merchants Association (representing the department stores) been able
    to manage a more coordinated effort?  The NRMA adopted OCR in late 1973
    after the UPC symbol specifications were established.  There were good
    operating reasons for the systems adopted by each.  However, if the UPC
    numbers below the symbol were printed in OCR-A instead of OCR-B -- a
    relatively simple change -- one symbol could have been read by both systems.
    The two groups have recently started a dialogue (see above), but why the
    feeling that there is a contest between the two?

--  Should the UPCC have set up a data bank and reporting system to record all

assigned product numbers in addition to the manufacturers' numbers? If this were available there would be a central repository for these numbers which would have simplified setting up the product file for each new supermarket scanning store and remaining current with all additions and changes. At present the stores and manufacturers have established a tenuous communication link that is more difficult and less accurate than the system requires. McKinsey's initial reports back in 1971-73 were that such a central data bank would be too expensive to maintain. Some think this was a mistake that will cause more and more difficulty and expense as time goes on.

-- Why can't the Version E (zero suppressed) format be used for drug and health-related items? The specification does not permit the shortened symbol for any active code other than Number System Character "0". For the NDC and HRI manufacturers, who tend to have large numbers of smaller packages, this has seemed to be an unnecessary and punishing requirement. Noone seems to be able to come up with the reason this was done in the first place.

*COMMENT*

*Although there is validity to some of these criticisms, and there are others, they do not detract from the overall positive accomplishments. The UPCC, its operating STAC committees and other administrators and advisors, were charged with the implementation of a far-reaching program, and of necessity, they concentrated on the prime requirements of the grocery industry. The fact that they did not fully understand and anticipate all of its implications is less than surprising.*

IBM is moving very slowly and carefully....

....in examining bar-code scanning in applications other than supermarket retailing. Some of the factors that will probably influence the final decision:

-- The final form in which the Distribution Symbol emerges.

-- The degree of standardization adopted by the various industries and government agencies. IBM's strength has always been in standardized applications and off-the-shelf hardware, rather than customized equipment.

-- The more difficult the challenge, the more attractive to IBM: For example, the requirement that a scanner must read and distinguish between various symbols on the same package.

-- A negative input would be the necessity to compete with only relatively small companies. The Department of Justice might be provoked if IBM were to launch its mighty juggernaut against the smaller companies who now share the industrial scanning market.

No commitment has been made and none is expected in the near future, but the progress of the industry is being carefully monitored.

## With over 300 installed systems....

....in the United Kingdom, France, Germany, Canada, Australia, New Zealand and the U.S., Plessey Telecommunications, Ltd. claims to be the world's leading company in library circulation control systems using bar-codes.

In the Plessey "Library Pen" system, both the books and the borrowers are identified by bar-code labels.  Issues, discharges, renewals and reserves are all controlled through one central controller in the library system.  The British-based firm is also very active in other industrial bar-code scanning systems.


## The Cash Register Task Force of....

....The National Association of Chain Drug Stores  (NACDS) published its find-ings in September 1977.  In the section on scanning, the Task Force stated that although scanning is not an urgent requirement now it will be in the future. They believe that the OCR-A approach of the NRMA, rather than UPC, will be the more viable approach because:

1.  The UPC system requires price lookup on all items, implying significant disk storage.

2.  Most sundry and cosmetic merchandise does not have UPC.

3.  UPC labels would be more difficult to produce in the stores for non-vendor-labelled items.

4.  OCR-A wands seem more practical and labels can be more easily produced with existing computer printers.

5.  If price tickets must be applied to every item, OCR-A tickets will be preferred.

6.  If the UPC symbol incorporates OCR-A characters, the items currently marked with UPC symbols could be read by OCR-A wand scanners.

In its background section of the report, the Task Force, formed in November 1976 by NACDS, reviewed the fact that the large store segments of the retail industry (department stores, discount stores and supermarkets) have had their point-of-sale needs met by the equipment manufacturers.  It was now time that the Chain Drug Store Industry analyze its needs and make them known to the ECR manufacturers.


## Although Electronic Fund Transfer systems....

....do not involve bar-code scanning, the recent history of EFT presents some interesting analogies to UPC and supermarket automation.  In an article in the NY Times (Sunday 1/8/78) Harold Greenwood, President of the Midwest Federal Loan & Savings Association stops just short of stating that EFT will be aban-doned.  His headline compares EFT to the Edsel, and leaves no question as to his predictions, however.

His basic premise is that EFT failed because of consumer resistance.  The needs of the consumer were not considered in the headlong rush to automation, he says.

His evaluation of the consumer, and the negative response to EFT, was based on:

-- Fear of automation and uneasiness about emerging technology.

-- Lack of a receipt for the transaction.  Consumers are accustomed to cancelled checks.

-- The need for personal service, particularly in money transactions.

-- The potential breach of privacy.

At the end of the article, a brief mention is made of the fact that a single transaction performed by an electronic teller costs $1.50 as compared to a cost of $.30 when done by a human teller.

> ### COMMENT
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> *We don't pretend to any expertise in EFT, but we would quarrel with some of the conclusions offered by Mr. Greenwood.  Consumer services are being automated in many areas, and in general, the consumer seems to accept it if service is improved (i.e. shorter lines, fewer errors).  What noone readily accepts, least of all industry, is higher costs without commensurate benefits.  The use of emotional terms such as "dehumanization" which are equated with all types of automated systems, is getting a bit tiresome.*

### John Hill has been elected....

....Second Vice President of the Material Handling Institute for 1978.  Since MHI seems to move its officers along in predetermined steps, Hill should be President of MHI in a few years.

Hill is Vice President, Industrial Systems for Computer Identics which he joined in 1970.  He is also Chairman of the Automatic Identification Manufacturers, a product section of MHI.

### There is a perceptible shift....

....in the attitudes of the supermarket buyers regarding source-marking of UPC symbols.  The original polite requests later became stronger "suggestions", and now we just heard of a Wynn Dixie buyer who told a supplier to get the symbol on his packages (non-food items) or lose the business.

It's still a voluntary program, however.  He didn't put it in writing.