



newsletter

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

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The efforts to woo....

....the retailers of general merchandise products to the EAN bar code are increasing. The August issue of Large Mixed Retailing, a new UK business magazine aimed to major non-food retailers, carries a feature article by Andrew Osborne, Secretary General of the Article Number Association, the UK EAN affiliate.

The author reviews some of the issues considered by a committee looking into the problems of the article numbering of general merchandise products in the UK. A major decision reached was to reject any coding approach which did not allow every variant of a product to be uniquely identified. A number of retailers might have supported the idea of "range coding", where the same article number and bar code appear on similar but different products. But range coding would be to the disadvantage of the specialist retailer and the manufacturer seeking line by line sales information.

Having given its endorsement of the International EAN Association's recent decision about unique identification (SCAN/IE Jul 83), the committee looked at the problems likely to be created by such a policy (a policy which we understand to be favoured by most general merchandise and specialty retailers).

The issues covered were:

- File size. Compared with a grocery store's 10,000 lines, a superstore could carry up to 50,000, and a general merchandise store over 100,000, upwards to 1 million lines.
- The volume and quality of communication about the article numbers from manufacturers to retailers.
- The difficulty of labelling certain small products, and different products which share the same packaging.
- The problems of seasonal and non-repeating lines.
- The problem of price marking.

On all these points, the committee concluded that EAN numbering and bar coding could provide equal or better benefits than other systems. The US National

Retail Merchants Association's (NRMA) vendor marking system was specifically rejected.

The product files of a supermarket's scanner system will inevitably be larger because of the decision to uniquely identify each product. (Compare this with American paperbacks where the UPC symbol only identifies publisher and price; listing each title would add thousands of line items to the product file). After discussions with equipment manufacturers, four approaches have been suggested for managing larger product files.

1. Centralised file management. Multiple retailers could improve price look up performance by minimising store level amendments.
2. Recording general merchandise sales on a transaction log and not have the product on the plu file.
3. Using "description tables", so that common product descriptions could be stored on a special table in memory in the EPOS terminal and not on each product's record on the file in the store's on-line controller.
4. Using a secondary file on the plu system. The secondary file would include each separate EAN for a range (for example, all 1200 shades of car touch-up spray paint) and a cross reference to a single common record for the range on the main plu file. Thus each record on the secondary file would be short and there would only be one fully expanded record (description, price and so on) on the main plu file.

Large Mixed Retailing is published by Benn Publications Ltd, Tonbridge, Kent, TN9 1RW, England; UK phone (0732) 364422; Telex 95132.

Meanwhile....

....what is happening with OCR?

A full report on the scene in America was presented in SCAN Mar 83. The National Retail Merchants Association's (NRMA) Universal Vendor Marking (UVM) system of source marking has not been broadly accepted. Some supporters of OCR hope for a combined symbol (OCR-A and UPC bar code). This is a long held wish and has shown little progress on North American products. For years the NRMA has had a system which enables the UVM code to be derived from the UPC code. This was originally intended for source marking on "crossover" brands, those which are sold in supermarkets and department stores.

OCR-A, but not the UVM code, appears on American books. A combined OCR-A/EAN bar code appears on books in the UK. But in these cases, it is the importance of the International Standard Book Number (ISBN) which has been the driving force. The UVM system is a structured number primarily for American department stores. It does not transfer easily to specialty retailers, like bookshops; nor has it travelled well outside North America.

Unlike American department stores, no hopes have been raised nor attempts made in the UK to apply both OCR-A and bar codes to the crossover lines. It appears that if a group of products carries EAN bar codes, then department stores will give this type of merchandise marking very serious consideration (SCAN/IE Aug 83). Not all applications using the EAN bar code will be based on scanning at the

point-of-sale; some UK stores are considering more automated stock checking as a first step.

The West German Scantron organisation claims to have installed its OCR scanner in a number of German retail stores. The device works like a slot scanner in the sense that the OCR label is read from underneath and that it is scanned in the true sense of the word. But the similarity cannot be taken further. The label has to be held stationary 20 to 25mm above a glass window and for between 1 to 15 seconds. Scantron admits that it will be 3 years before a moving label can be scanned.

Scantron has developed another device which adds a bar code laser scanner to the OCR scanner -- the best of both worlds?

Comment

It appears that some of the supporters of OCR now see its future co-existing with bar coding. We believe that OCR does not present a threat to bar coding. We wish that some of the more fervent supporters of OCR would not consider bar coding as a threat. There are many applications where human-readable information is required and the use of an OCR font can bring with it the benefits of automated data capture.

Now that the majority....

....of newly-published paperbacks in Britain carry an EAN bar code, publishers are beginning to turn their attention to ways of using the bar code within their own distribution systems.

Numeric Arts has just completed the installation of an automatic returns processing system at Transworld Publishers, Wellingborough. Transworld, a subsidiary of Bantam Books of the USA, is initially using the system to improve the quality of its net sales records. Other enhancements are likely in the future.

Mark Mariott, Managing Director of Numeric Arts, described the system to us: "This particular installation called for a simple concept and a high level of automation. All books are loaded onto a conveyor belt with the bar code facing upwards. As the conveyor travels along, the bar codes are scanned by an LS 3000 scanner, at a peak operating speed of 3600 per hour. The EAN bar code is checked against the product file on the system. If everything checks out the books continue along the conveyor to a pulping machine". Facilities exist to cope with various error messages and a number of times a day, the transactions can be down-loaded to the publishers mainframe computer for further processing.

This installation comes after two years of development by Numeric Arts, and a consortium of leading UK paperback publishers, to design a comprehensive returns processing system. The system relies on data capture by Symbol Technologies' LS 3000 scanner. Each returned book is checked on the system's product file to determine the action to be taken.

Each publisher in the consortium has different requirements for returns processing. Numeric Arts has developed a system with a number of standard features, enhanced by many semi-standard options. The final flexibility of pure customisation has been a major attraction of Numeric Arts approach to customers.

Marriott is optimistic that Numeric Arts will be able to announce details of installations to other UK publishers.

Numeric Arts Ltd, Gardner Road, Maidenhead, Berks. SL6 7PP. England. UK phone (0628)39753; Telex 847369.

Real Time Control (RTC) is....

....another name to add to the list of European manufacturers who have installed EPoS equipment in the supermarket sector. A 20 lane system was recently installed at the William Morrison Supermarket in Bradford, Yorkshire, England. The William Morrison organisation has made use of a government Department of Industry (DOI) scheme designed to support British hi-tech manufacturers. The DOI underwrites the cost of the equipment during the first year of its life.

Last September, RTC was the first European company to have distribution rights for Spectra-Physic's scanners. Earlier this year, RTC installed a single lane scanner system in the wines and spirits department of a cash and carry warehouse.

Real Time Control Ltd, Kebbell House, Carpenders Park, Watford, Herts, WD1 5BE, England; UK phone 01-428-0088.

Dataproducts International Ltd....

....has just launched the M100L bar code/label printer in Europe. The company is a subsidiary of Dataproducts Corp, San Jose, California, USA, (the world's largest independent supplier of computer printers).

In line with the parent company's marketing policy, Bob Redgate, International Marketing Manager, tells us that Dataproducts does not plan to sell the M100L direct to end users because of the small quantities usually purchased. He would rather sell through consultants, system builders, manufacturers and distributors of scanners and light pens, and labelling stationers, all of whom "know the market."

According to the company, the M100L bar code/label printer is intended for the end user who wants flexibility: short runs of bar code labels; mixed bar code and text labels; mailing labels; and a general purpose printer. A specially developed software package converts the long established M100 matrix printer into the M100K label printer. The print head produces a 9 x 14 dot image. The 14 dots per column overlap to produce a straight vertical edge. Printing is at 140 characters per second. The machine is likely to have a price between those of the dedicated dot matrix label printers and the more sophisticated bar code printers.

Dataproducts covers all of Europe, operating from four countries: Austria, France, Germany and the UK. First enquiries to Bob Redgate, Dataproducts International Ltd, 136-138 High Street, Egham, Surrey, TW20 9HL, England; UK phone (0784) 31161; Telex 298562.



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**The European
Congress on
Automation in
Retailing**

20-23 September 1983

SPECIAL SHOW EDITION

Welcome.....

....to EPOS 83, where you will be able to see some of the latest developments in bar code technology as it affects retailing. This year, both the exhibition and conference sessions reflect the increasing interest being taken in bar coding.

We shall avoid any type of exhibition preview, or announcements about products or installations. During the next few issues of SCAN Newsletter International Edition we shall report on the new products and on some key sessions. The role of SCAN Newsletter is to report events and provide the forum for all those interested in bar code technology, (whether suppliers users or potential users), to follow and contribute to the discussion of events that will influence the development of bar coding.

This special EPOS conference issue contains a number of articles in the style of SCAN Newsletter, which would not normally feature in its pages because the articles are more of a review of the technology than topical news items.

We hope that you find them of some interest.

To a Clearer Crystal Ball -
or How to Interpret the Scanning Installation Data

Machine-readable bar codes are not a new technology. Some early applications go back to the 60s. Their use in the retail sector goes back almost to these early days, with the use by Sainsbury of Plessey bar codes for stock checking and order purposes.

The real impetus for the use of bar coding in the retail sector came ten years ago when the specification for the Universal Product Code was published. It took a little while for the first trial stores to be established but gradually the supermarket chains added one, then another and then more scanning stores.

The European Article Numbering system started later: in 1978. It follows that one would expect a lag in the rate of progress of the growth of EAN based scanning systems compared with the growth of scanning in North America. Many forget this basic point when looking at the published figures of installations:

	<u>After 5 years *</u>	<u>After 10 years</u>
USA & Canada	562	approx. 8,000
EAN Community	1,243	?
EAN, excluding Japan	329	?

* as at Dec 1978 for UPC; Jan 1983 for EAN

Two other factors have to be considered. The International Article Numbering Association EAN has 19 full member nations plus 2 countries which participate through the membership of another; for example Eire through the Article Number Association (UK). In each of these 21 countries, different conditions, trading environments and laws prevail. Most important, different retail organisations operate in the different countries.

So, it is to be expected that a lot more experimentation will be taking place when compared with the United States and Canada. This can be seen by looking in detail at any of the published lists of installations. It manifests itself in another way: a far wider choice and installed base of equipment throughout the EAN member countries.

All this suggests that EAN scanning requires a longer development period than its American counterpart. It would be a very foolish seer who interprets this longer development period as an indication that scanning had reached the point of stagnation or even demise.

The second factor is even more crucial in understanding progress. In America, scanning was developed as a solution to a stated problem: low checkout productivity, mainly due to the extra time required by American supermarkets to provide a packing or bagging service to all their customers. In Europe, this extra service is rarely provided and so checkstand designs had already incorporated conveyors (single, double and even triple take off systems) to get the goods past the checkout operator as quickly as possible for the customer to have the task of packing the groceries.

Such systems may lack something from the customer's point of view. But for the supermarket operator it means that in Europe item throughput without scanning is nearly as high as North American item throughput with scanning. The prospects for improvements in front end productivity do exist though the margin for improvement is smaller. In the non-food area the criteria is that a scanning system should not be slower.

It follows that if you cannot get massive improvements in front end productivity, you have to look for them elsewhere. It's for this reason that the EAN system has placed far greater emphasis on

- * using the article number itself for trading communication
- * outer case coding
- * extending the system to general merchandise
- * processing nationally based sales data through clearing houses.

The gestation period for these schemes has been much shorter than in North America. Europe's, and the rest of the EAN community's, progress has equalled or beaten the achievements of the UPC system. With a much broader perspective, the continued growth of the EAN system is more assured.

What must not be forgotten is that with an ever spreading base of source marking, one of the retailer's major headaches has been removed. With source marking each retailer has a free ticket to item by item data capture. Yes he still has to purchase the equipment and develop the systems, but unique product identification is assured and extremely simple to use. Because it's already there, the decision to switch over to bar code data capture is not so onerous.

Whatever you do, don't just take the figures at their face value. International systems like European Article Numbering and the Universal Product Code, cannot be treated glibly. The simple fact that they exist is remarkable in itself. Because of their ever increasing facets, the art of predicting will be difficult. But one thing is sure; just as we can be certain of a sunrise tomorrow, so can we be certain that there will be another store starting to scan, (with a bit of allowance for Sunday trading, early closing, shelf filling....). How many other merchandise marking techniques can make that claim?

The Shape of Things to Come

Not very far from the EPoS 83 Exhibition and Congress is a distribution system which already has all the components of a comprehensive EAN based system.

If you went into any one of the eight VIVA drug stores in London and Essex you would not have much idea of what lay behind the scenes. Sure, you would see a light pen being used to capture data for the sales transaction, and you would receive a till receipt which said "COTN WOOL PUF" or with some other chemist shop product appropriately described. If you knew about EPoS systems you would expect that the business was making use of the sales data. And you would be right.

But you still would not have a clue to what went on behind the scenes. Well, may be you might if you spotted a different type of bar code on one of the larger items. That bar code would be an ITF 14 bar code: an Interleaved Two of Five bar code which is part of an EAN specification (yet to be published) for outer case coding.

The ITF 14 bar code is the very essence of the central warehouse which supplies the VIVA stores. CBS cash'n'carry, part of the Clarks organisation which also owns VIVA, makes considerable use of bar code technology. As its name suggests, CBS cash'n'carry is also used by other retailers.

Every week about 40 to 50 thousand outer case codes get delivered into the warehouse. All of these have a bar code label affixed to them on receipt. Eventually all of these could be source marked, making the system work as intended.

Cash and carry customers pick their goods in a fairly conventional way and take them to one of 12 checkout lanes. Here each outer case bar code has to be read with a hand held scanner or light pen. As a fall back the number can be key-entered. So the cash and carry sales operation is automated using bar codes.

As far as the VIVA stores are concerned, the stores' EPOS system generates a recommended order which is sent to the warehouse, suitably altered by the store manager. Few alterations are made, the managers trust the system.

At the warehouse the order is picked by warehouse staff. Because cash and carry customers are also simultaneously picking the same stock, it is necessary to raise the invoice/transfer charge documentation after picking. And guess what, the bar code on each outer is read into a portable terminal, the data from which creates the invoice.

The executives of Clarks would be the first to admit that there is scope for improvement. At present everything has to be labelled. Once source marking can be fully utilised the system will be easier to manage. What they are doing is building up a solid base of experience from which to simplify and enhance the system - shaping it for the future.

As would be expected, security is reasonably tight and it is difficult to get from one area of the building to another without proper automated identity verification. The only disappointment - that system is not based on bar coding.

This one business operation encapsulates a possible view of the future for any retailer adopting EAN bar coding. All the consumer products could eventually be source marked. All the outer cases could eventually be source marked. As this day gets nearer, many other retail distribution systems will make full use of the EAN system.

Over the last few months,...

....SCAN Newsletter and SCAN Newsletter International Edition have featured many articles of interest to retailers; here is a small sample covered:

- * UK department stores' interests in bar code data capture (SCAN IE Aug 83)
- * The so called bottle bill legislation in some parts of the USA, which requires supermarkets to refund money on containers purchased in their particular state (SCAN Aug 83)
- * The use of UPC version D-3 bar codes on Visa International's credit cards (SCAN Jun 83)
- * The Australian retailers' Code of Practice for computerised checkouts (SCAN IE Jun 83)
- * The latest episode in the long saga of the patent dispute for using UPC bar codes on cents-off coupons (SCAN Jul 83)
- * The announcement of Europe's first hand-held laser scanner: the Datalogic LG-100 (SCAN IE Jul 83)

If you would like to know more about SCAN and be sent a complimentary issue of SCAN Newsletter and SCAN Newsletter International Edition, bringing you the latest news from North America and the rest of the world, write to Paul Chartier (address below).