SCAN newsletter

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

SCANNING, CODING & AUTOMATION NEWSLETTER • 11 Middle Neck Road • Great Neck, N.Y. 11021 • (516) 487-6370

Volume V Number 7

ISSN 0273-3080

March 1982

If you happened to have been stranded....

....on a desert island this past month, you may not have been exposed to Eastman Kodak's new disk camera. (It gets its name from the replacement of the traditional roll of film by a 15-exposure film disk that rotates automatically after each shot.) The much-heralded, and widely-acclaimed, new consumer product caught our attention for reasons other than Kodak's claim that this is the biggest innovation in amateur technology in 19 years.

Each of the disks has a heat-activated bar coded label affixed to its outer shell. The bar code was prominently displayed on the news release and publicity photos of the product. The symbol will play a significant role in the processing of the film after exposure. When packaged at the factory, the disk label is printed with a codabar symbol, possibly put there with an electronic beam recorder. The symbol is developed when the exposed disk travels through the automated development processing and is scanned to match the film disk with other codes identifying the package.

As is usual with Kodak, one doesn't get to know too much of what's happening in their R & D efforts, and some of the above is conjecture. We do know they have had active task force groups exploring all aspects of bar code scanning for years. The best we have been able to learn so far about this project is that bar coding will be an integral part of the control function in the processing labs that will handle the disks. The rigid and uniform structure of the film disk will probably allow for full automation in the labs, and the bar codes will permit tracking the individual units through the entire procedure.

This potentially popular product will increase the awareness of bar code scanning by the general public. It may also trigger some new applications depending on Kodak's patent position and licensing policies.

Hardly a month goes by....

....without some news from Photographic Sciences. The company is struggling mightily to turn itself around -- and, as public companies are required to do, its every move is open to public scrutiny.

The latest announcement by John Hickman, the company's new Chairman, is that Photographic Sciences has "reached an agreement to acquire Harland Data Systems, Ltd., of Hull, United Kingdom, subject to the execution of a formal contract and the ratification by both boards." The closing is expected by March 15, 1982.

Harland is a major factor, according to Hickman, in bar coded, computer generated pressure sensitive labels in the UK and Europe for medical, retail and industrial applications. The company is the European licensee, of certain computer software technology, of Data Document Systems, a Pitney-Bowes subsidiary.

Mr. Hickman continues "this acquisition would unite two market leaders in the generation and supply of bar coded media for the data entry portion of symbology systems." Harland Data Systems began operations in 1978, has 55 employees and sales approximately equal to Photographic Sciences. The proposed cost of the acquisition is said to be approximately $2 million in cash and notes. Photographic Sciences has stated that this acquisition is not expected to dilute the company's stock. This is the company's second attempt to acquire a pressure sensitive label company. In November 1981 negotiations to buy Tapecon, a Rochester, NY based company, were abruptly cancelled (SCAN Sept 81; Oct 81; Dec 81).

Photographic Sciences also announced their operating results for the second quarter and six-months' periods ended December 31, 1981:

For the Periods Ended 12/31
(All figures in $000)

	2nd Quarter		6 Months	
	FY '82	FY '81	FY '82	FY '81
Revenues	$1041	$ 709	$1,838	$1,584
Operating Profit (Loss)*	(163)	(257)	(352)	(365)
Net Profit (Loss)	(163)	(134)	(352)	(210)

*Before accounting for income taxes and extraordinary items.

According to John Blackert, President of the company, the principal reason for the increase in sales revenue was the growing contribution from their present UK subsidiary, and the new equipment introduced during the first quarter of fiscal 1982.

We had previously reviewed....

....Harry Burke's report Key-Entry Bypass which provided an assessment of bar codes, OCR and magnetic stripe coding (SCAN Dec 80). That report concluded that bar code symbols -- and in particular 3 of 9 code -- are the most efficient means available for machine-readable data input.

More recently Burke, Project Manager at NCR Data Pathing Systems Division, authored two papers evaluating the bar codes available to the user today. Bar Code Format Issues is aimed at the issues pertinent to the selection of a bar code format by the automotive industry. Included is a head-to-head evaluation of Code 128 and Telepen (SCAN Jan 82; Feb 82). In his introduction, Burke states his intention to "point out those issues (and their implications) which should be considered before choosing a specific bar code to function in any particular application". He is careful to state that it is not his purpose to recommend bar coding schemes but he does favor a new Code B (for Burke ?) as the most secure all-numeric symbol.

In Bar Code Read-Reliability similar issues are addressed with detailed examinations of UPC, MSI, 2/5, interleaved 2/5, codabar, 3 of 9 code, Telepen,

Code 128 and (of course) Code B. The provocative premise of this paper is that "the bar code art is now confused and its read-reliability compromised, through the efforts of all vendors as they market their particular product lines and promote the bar coding schemes which are supported by these lines. As a result, no bar coding scheme, now in common use, has the assured read-reliability of which the art is capable". (Note the careful term "now in common use" opening the door to consideration of Code B. Are their any serious takers?)

The prolific Mr. Burke also published Automated Item Identification, a description of the use of machine-readable bar codes to automate computer communications for the effective management of manufacturing processes.

You may not agree with all of the positions taken by Harry Burke regarding the features and his evaluations of the various bar code symbologies. But his detailed discussions and analyses are certainly worthwhile contributions, from an astute observer, to the bar code technology literature.

Harry Burke, NCR Corporation, Data Pathing Systems Division, 537 Lakeside Drive, Sunnyvale, CA 94086; 408/738-8400.

In a concentrated rush to the marketplace....

....Intermec has introduced four new products within the past 30 days:

- The Model S35-M bar code printer is specially targetted to comply with the new Department of Defense standard (MIL STD 1189) for bar code marking of unit packs, outer containers and documents. The unit prints the military bar code format (3 of 9 code with OCR-A in the clear) on both roll form tags and labels, and includes up to 10 lines of human readable alpha-numeric text. Model S35-M features a label dispensing mechanism that allows the user to print a single label on demand, or on continuous duty-cycle for applications for industrial environments.

- Two new low cost PC board level bar code readers which are capable of reading all popular bar codes. Model 9315 measures 3.5" x 5", allowing easy mounting in space-limited equipment, and costs $151 ($259 with a Model 1236 wand). Model 9305 features switch-selectable bar code decoding algorithms, and communicates via RS-232 interface. The 9305 sells for $242 without, and $360 with the wand. All prices are for quantities of 500 units.

- A new compact thermal bar code printer, Model 8610, dispenses single labels on demand with 8 switch-selectable symbologies and two lines of text on 3 fonts. Intermec is positioning this unit as the "beginning of truly distributed bar code printing". The manufacturer characterizes it as a small, quiet, rugged and inexpensive unit to be used wherever a bar code label is needed. The Model 9610 has an introductory price of $1695.

- The final product in this new array is a portable bar code reader that users can program themselves. The Intermec 9410 has 60,000 characters available for data and user program storage. The selling price is $1795.

Interface Mechanisms, 4405 Russell Road, Post Office Box N, Lynnwood, WA 90836; 206/743-7036.

Using an "advanced image processing method"....

....Cognex, a new Boston-based company, has introduced its first product, called DataMan. Robert Shillman, President of the company, describes the new device as a "sophisticated vision system that...reliably reads letters and numbers which are printed, etched, embossed or inscribed in products and labels." Shillman continues, "DataMan algorithms are modeled on human perception and based on extensive research into the way that people recognize things. Because DataMan uses the same high-level features and strategies which humans use in the recognition task, it is capable of recognizing characters even when they are degraded or when the illumination is poor...if it is legible to man, it's legible to DataMan".

The company claims that characters can be read in any size from .020" to 20" in any orientation, with large variations in illumination levels. Characters can be read from such diverse surfaces and materials as semiconductor wafers and automobile tires, in any type style. Recognition speed is at 15 characters per second. The price of the system has been tentatively set at about $30,000.

Alfred Rifkin is the marketing vice president of the company. He recently joined Cognex from Identicon. Rifkin has told us that he anticipates some very significant technological breakthroughs for this method of scanning OCR characters. He expects this new technology will have a major impact on the industry. Cognex Corporation, 1505 Commonwealth Avenue, Boston, MA 02135; 617/254-1231.

If you need....

....a more permanent, machine-readable tag, the Pannier Corporation offers a metal tag printing system. The Mark-Cleer equipment automatically provides metal tags, printed with a 9 x 7 dot matrix impact printer, in various bar code formats such as interleaved 2 of 5 and 3 of 9 code.

The system prints tags on color-coated steel, or stainless steel, up to 3" x 7". Typical speeds range from 2 seconds (3" x 2") to 5 seconds (3" x 5") for each tag. The unit accepts data from existing remote sources, programmed format or manual entry.

For applications where paper or film labels are not practical, the system offers tags with heat resistant properties ranging up to 2,000° Fahrenheit. The company feels this opens up "new applications for coding/scanning that might otherwise have been closed due to the limitations of the label."

Pannier Corp., 207 Sandusky Street, Pittsburgh, PA 15212; 412/323-4900.

Norand Corporation is placing....

....more and more of their Model 20/20 bar code readers in a variety of scanning applications. The company recently hired an additional 50 people to handle the increased volume for these scanners and other company products. The 20/20 is Norand's unique Xenon flash scanner (SCAN May 81).

The 20/20 readers are being sold to OEM customers, where Norand has been concentrating their marketing efforts. Customers such as Data Terminal Systems,

National Semiconductor, and Omron (Japan) have been including the scanners in their front end systems for special applications. These include supermarket courtesy counters, pharmacy departments and liquor departments; and also for back room operations and other peripheral areas. The Norand units can also be found in two Wal-Mart Stores which are experimenting with scanning. (More about the scanning activities of the mass merchandisers in a later issue.)

Contact: Bob Steele, Norand Computer Systems, 550 Second Street SE, Cedar Rapids, IA 52401; 319/366-7611.

Employing bar code scanning....

....in record and tape retailing may not be moving along too quickly on an industry-wide basis, but there are some demonstrable successes by individual companies.

Data Enterprises of the Northwest (DEN), with annual sales of about $3 million, is a data processing service company organized in 1971. In recent years DEN has also been marketing turnkey systems based on Data General, Prime Information, Honeywell and Microdata equipment. DEN became involved with the retail record and tape industry in the early 1970's. The company operated a data processing system for ABC Record and Tape Sales and Roundup Music Distributors. DEN developed their Retail Merchandise Distributing System to identify sales and assist in the management of the inventory, distribution and sales functions The system includes the printing and scanning of bar coded labels affixed to every product in the store. Because the company did not want to be restricted to the fixed length of UPC they adopted codabar for labelling the products, even though UPC is the industry's symbol of choice. The bar code tickets are printed on-line using a Printronix printer. MSI terminals are used for scanning in the stores, either at point-of-sale or for shelf inventory.

This is another example of the problems that occur when industry standards, specifications and implementation are delayed. Companies are anxious to automate to reduce costs and speed up information, and will move ahead on their own to achieve those goals.

DEN has another project under way using bar codes. They are developing a tool control system for the Todd Shipyards in Seattle and Los Angeles. Shipyards lose a large number of valuable tools each year and this system is designed to keep track of these tools. When a tool is checked out or returned, the bar codes on the tool bin and on the employee's badge will be scanned recording the transaction. The system is similar to the typical and more familiar library checkout systems and could have applications elsewhere.

Data Enterprises of the Northwest, Inc., 800 South Michigan Street, Seattle, WA 98108; 206/762-9474.

To reflect its broadened scope....

....the OCR Users Association has changed its name to Recognition Technologies Users Association. Headquarters were moved from New Jersey to Vermont.

The association now encompasses users of OCR, OMR, MICR, Image and VOICE. We don't know exactly where, or even if, bar code scanning fits into their scheme

of things, but there are some indications that this organization is edging over into this technology.

Recognition Technologies Users Association has over 500 members and may be contacted at: Box 2016, Manchester Center, VT 05255; 802/262-4151.

Sorry we didn't report it....

....in time for you to attend, but it's still newsworthy. George Washington University offered a course on "Contemporary Applications of Optical Bar Code Technology"which was scheduled for March 1-5, 1982. The course covered the use of contemporary small computers in the applied engineering of bar code systems. Included was a discussion of the history of one dimensional optical character recognition systems and how bar code media form a communication channel.

The instructors were Walter Banks, formerly from the University of Waterloo (Canada) and now at the University of Guelph; and Carl Helmers, president of North American Technologies. The intensive course was 8:30 a.m. to 4:15 p.m., five days, and the cost was $760.00.

Fur future scheduling contact the Continuing Engineering Education Program, George Washington University, Washington, DC 20052; 202/676-6106; 800/424-9773.

There is a new publication....

....in our industry called "Bar Code News -- The Newsletter Focusing On Bar Code Systems Applications". The first issue came out in December 1981. Not strictly a newsletter, by standard definition, the new publication accepts ads (about $300 per page) and is published under a controlled circulation policy i.e., free to qualified subscribers. Present plans call for publication quarterly.

The publisher is North American Technology which also recently purchased Robotics Magazine, and last year issued the 520 page industry report entitled "Contemporary Applications of Optical Bar Code Technology" ($500 per copy). North American Technology, 174 Concord Street, Peterborough, NH 03458; 603/924-7136.

Hewlett-Packard's new....

....bar code decoder module HEDS-0100 interfaces directly to its digital bar code wands, decodes 3 of 9 code, and transmits data over a parallel ASCII RS-232-C port.

The unit is designed to be used as a slave MPU board, or with a small transmit-only terminal. It is available with a standard 44 pin edge connector or the Standard Eurocard with a 64-pin DIN connector (HEDS-0150). Prices range from $430 to $490 depending on quantity. Products are available at authorized Hewlett-Packard distributors.

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Published monthly. PUBLISHER/EDITOR: George Goldberg; CIRCULATION DIRECTOR: Teddy Allen.