INDUSTRIAL DATA PROCESSING APPLICATIONS REPORT

Applications	Order Processing
Type of Industry	Optical Manufacturing and Retailing
Name of User	Bausch & Lomb Rochester, N. Y.

Equipment Used	IBM 1410 Data Processing System
	IBM 1001 Data Transmission Terminals (2)
	Bell System Data-Phone Data Sets
	IBM 407 Accounting Machine
	IBM 519 Reproducer
	IBM 086 Card Sorter

Synopsis

An electronic ordering system designed by Bausch & Lomb of Rochester, N. Y., is enabling optical distributors and retailers across the country to cut reorder time by as much as four or five days, virtually eliminating clerical errors involved in reordering. In addition, distributors and retailers can maintain a single source of supply for eye-glasses and eye-glass frames and generally maintain lower inventory.

The system, called EOS-22 by Bausch & Lomb, utilizes IBM 1001 data transmission terminals and Bell System Data-Phone data sets to send ordering information to B&L's headquarters. The order processing chores are handled by an IBM 1410 computer system.

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Bausch & Lomb, Inc. began manufacturing lenses and optical equipment in 1823. It offers some 125 eyeglass styles, and distributes its opthalmic products through 155 company-owned wholesale laboratories as well as 225 independent distributors. It also has six divisions manufacturing such diversified products as electronic instruments, a helicopter nose-cone housing, copy lenses for Xerox machines, fiber optics, rifle scopes and precision research instruments. With sales beyond $100 million dollars yearly, the firm has expanded frame and sunglass manufacturing facilities to Chili, New York.

At the time Bausch and Lomb's automatic reordering system was initiated, three-part 80-column prepunched cards were used to maintain constant inventory information. When the reorder point was reached, the customer simply mailed one portion of a card to Rochester, N.Y., where it was processed by data processing equipment and the order filled.

While the original data processing system provided accuracy and a degree of clerical savings, it did not achieve the objectives of low inventory levels and rapid stock replacement. The mailing process took anywhere from two to five days -- a period that represented lost sales in the increasingly fashion-oriented eye-wear industry.

In order to eliminate the costly time lag, B&L initiated a study designed to develop an order processing system that would provide both the advantages of basic bin card inventory control and a fast fool-proof method for automatic reorder. The result was EOS 22 which utilizes a 22-column punch card about one-third the width of a standard 80-column card. The 22-column card approximates the size of a bin card, and like a bin card provides space for historical data. In spite of its smaller size, it contains enough information to control orders and inventory, while reducing to a minimum the human factor that is inherent in all inventory control systems. An added advantage of the 22-column card is that it approximates B&L's lens and frame sizes and can travel handily with the product.

THE SYSTEM

The principle difference between the original order control system and the one currently in use is the use and emphasis on data communications units to transmit information to the Rochester frame center where the orders are processed and filled.

When a customer is phased into the system, a complete inventory analysis of his stock position is the first step undertaken. The analysis determines economical stock levels and optimum reorder points and quantities. This data is then used to prepare 22-column punched cards which contain a complete description of each item, the quantity per card (usually one) and an identification of the distributor or retailer. This data also is printed on the card.

When stock minimum is reached, the customer removes the card from the bin for transmission of the order. Most B&L customers have Data-phone data sets and a 1001 card reader terminal. Orders are batched by the customer and transmission is done on a once daily basis to minimize telephone costs. The customer dials a special phone number which connects his 1001 to B&L's receiving units in Rochester. To transmit reorder data, the customer simply inserts the cards into the 1001 and they are automatically duplicated in 80-column format on the receiving units. Any information not punched on the card can be entered manually via the 1001's keyboard. The 1001 transmits data at approximately 12 card columns per second.

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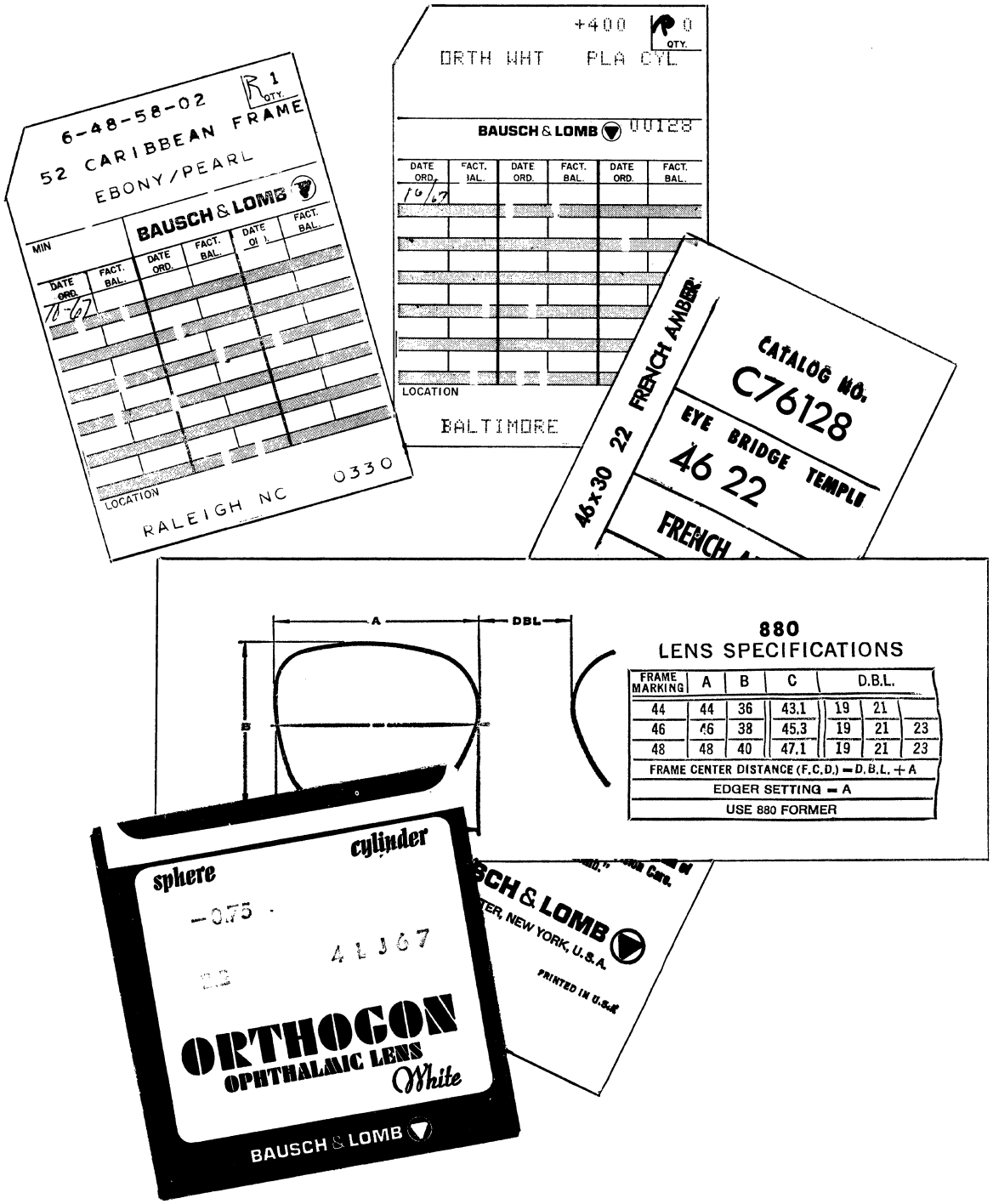

TWENTY-TWO COLUMN CARDS PROVIDE SPACE FOR HISTORICAL DATA AND SERVE TO APPROXIMATE BIN CARDS. THEY CLOSELY MATCH THE SIZE OF BAUSCH & LOMB'S SHIPPING ENVELOPES, AN ADDED CONVENIENCE.

In B&L's data processing center, the incoming cards are sorted by using an IBM 86 sorter which is capable of handling100 cards per minute. Then they are gang-punched with the customer's account number and the B&L log number. When these steps are completed, the cards are processed through an IBM 407 accounting machine which prints the shipping order and creates, as a by-product, punched cards used for sales analyses, billing, production

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planning, inventory control and other miscellaneous applications. Most of these by-product activities are handled on an IBM 1410 computer.

BILLING COPY

BAUSCH & LOMB INCORPORATED

ROCHESTER, NEW YORK 14602

Established 1853

3581

SHIPPED TO . WHITE HAINES DPT CD
82 NO HIGH ST
P O BOX 1878
COLUMBUS 15 OHIO

SELLER REPRESENTS THAT WITH RESPECT TO THE PRODUCTION OF THE ARTICLES AND/OR THE PERFORMANCE OF THE SERVICES COVERED BY THIS INVOICE, IT HAS FULLY COMPLIED WITH PROVISIONS OF THE FAIR LABOR STANDARDS ACT OF 1938, AS AMENDED.

22333 539 CHARGED TO WHITE HAINES DPT CD
82 NO HIGH ST
P O BOX 1878
COLUMBUS 15 OHIO

TERMS:

PLEASE REFER TO INVOICE NUMBER AND DATE IN CORRESPONDENCE

ORDER REFERENCE CUSTOMER			VIA			INVOICE NUMBER	SHIPMENT AND INVOICE DATE MO. DAY YR.	PAGE
B&L DATE	NUMBER	74121790010/02	PP	F 5000 PAIR ORDER		00018	10 11 67	01
			DESCRIPTION	B SPH CYL	QUANTITY ½PR.	PRICE	AMOUNT	
37 05	501		BAL K SEMI WH	006 250	10	1 26	12 60	
			BAL K SEMI WH	008 300	5	1 26	6 30	
					15		18 90	
			BAL K SEMI SL A	008 175		52	52	

CUSTOMER INVOICES FOR BILLING PURPOSES ARE PRINTED OUT FROM BAUSCH & LOMB'S COMPUTER SYSTEM.

PRIMARY OUTPUT

The primary output of the system is the printed order which enables Bausch & Lomb personnel to pick, pack and ship the customer's order within a matter of hours after it is received.

Much of the manual effort that used to slow down ordering and shipping has been eliminated. Most orders are processed and on their way to the customer 24 hours after receipt.

CUST. DATE & NO. 10-11-67 F. O. B. DEST

B & L NUMBER 1011001 PLEASE REFER TO THIS B. & L. ORDER DATE AND NUMBER ON ALL CORRESPONDENCE.

CUST. ACCT. NO. 0750

CATALOG NO. OR DESCRIPTION			FOCI OR SIZE			QUANTITY ORDERED	QUANTITY SHIPPED	BACK ORDERED
00081	ORTH	WHT	00	-475	000	1		
00340	ORTH	WHT	00	+550	+ 75	1		
00924	ORTH	WHT	00	-500	+ 50	1		
00976	ORTH	WHT	00	-200	+ 75	2		
01569	ORTH	WHT	00	000	+ 62	1		
01584	ORTH	WHT	00	000	+300	1		
						7		

PICKING LISTS, USED BY WAREHOUSE ORDER-FILLERS TO COMPLETE CUSTOMER ORDERS, ARE PRINTED OUT ON THE 150 LINE-PER-MINUTE IBM 407 ACCOUNTING MACHINE. THEY ARE COMPOSED OF A BILLING COPY, PACKING MEMO AND FILE COPY.

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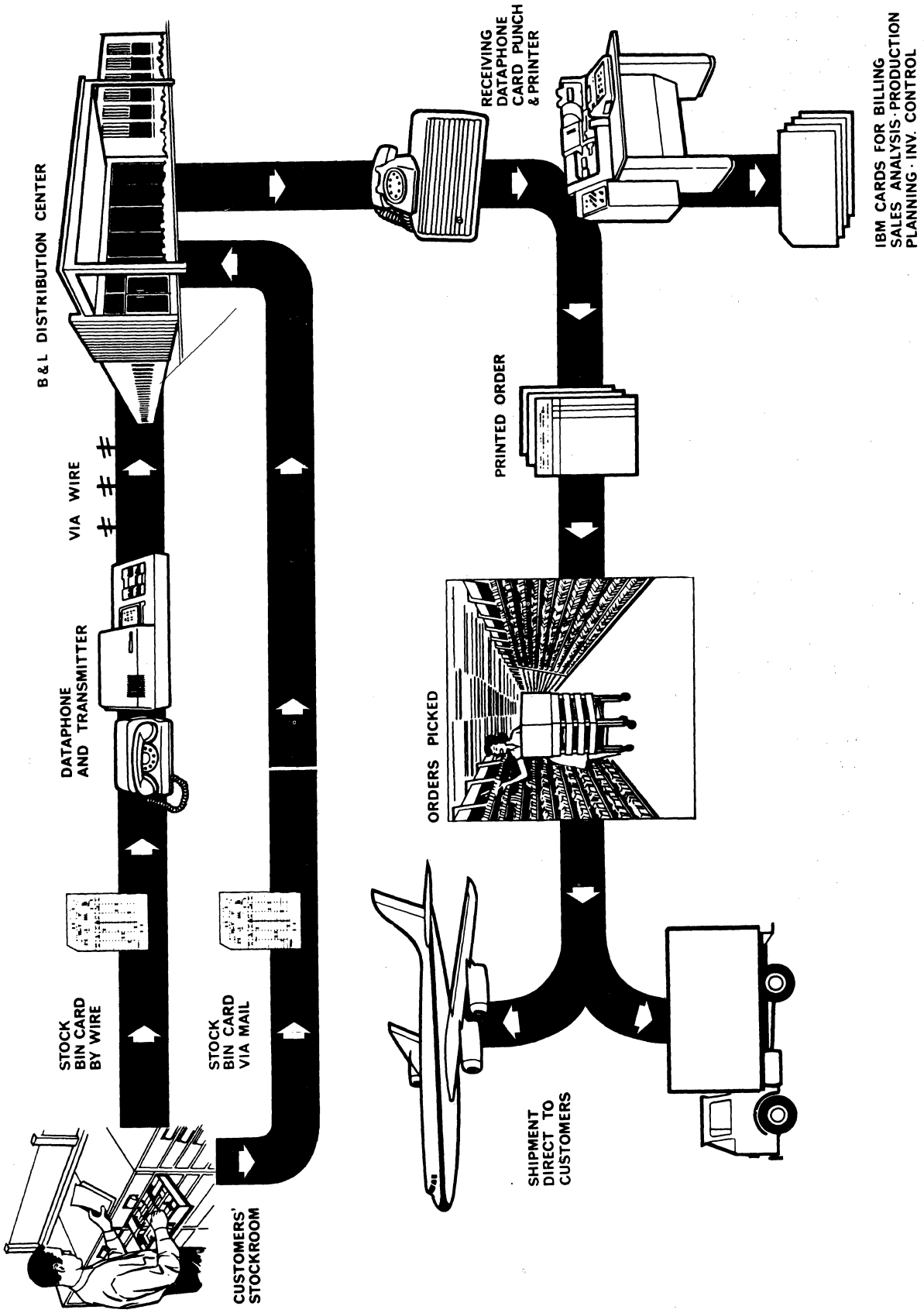

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The printed order is called a picking list. The name evolved due to the small size of lenses and frames which have to be manually picked off the shelves by B&L order fillers. In addition to the picking list, several other documents, which are prepared on the 1410, serve as valuable management by-products. Among these are production planning and inventory control reports which enable B&L to maintain inventory levels at a point where customer demand can best be fulfilled.

RESULTS AND FUTURE PLANS

The EOS-22 System has provided marked results in two major areas -- those affecting the customer and those affecting B&L's internal operations. The customer benefits by the sheer speed of the system. Computerized ordering has accelerated service to the point that orders that once took four or five days to process can now be handled in hours. Most of the time saving results from the speed of telephone ordering as compared to four or five days required by the mails. The rest is realized through data processing equipment which allows for immediate, accurate and automatic preparation of all paperwork needed to invoice, pick and ship the order.

When ordering was done by hand, eight clerks could process approximately 150 orders in a day. The computer system processes 400 a day, giving more accurate data and eliminating a number of intermediate steps, and all but eliminating clerical errors.

The frame center is now the single source of supply -- instead of regional centers which were not as efficient as the one centralized source approach.

Inventory investment is reduced because customers can maintain smaller stock levels and know that stock can be replenished fast enough to meet consumer demand.

The system is also providing Bausch & Lomb with more timely data enabling the company to stay on top of fashion trends in the eye-glass industry. The company has the capacity to stock and deliver quickly the kind of frames currently in demand.

Bausch & Lomb has been able to analyze orders on a current basis and reduce inventory considerably. Distribution expenses have been cut significantly during a period when sales have been constantly rising. Savings have resulted from the ability to react quickly to fashion situations, an important by-product of a system that was initially designed to increase customer service.

The use of EOS-22 is being expanded to all customers. Although some small customers are still ordering manually, B&L hopes to bring the advantages of the system to practically all within the next few years.

B&L management is also hoping to improve the system even more and is considering installation of a third generation on-line, real-time system.

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