# INDUSTRIAL DATA PROCESSING APPLICATIONS REPORT

| | |
|---|---|
| **Applications** | Order Processing |
| **Type of Industry** | Heating Units Manufacturer |
| **Name of User** | Wiegand Co.<br>Pittsburgh, Pa. |

| | |
|---|---|
| **Equipment Used** | Monroe Monrobot XI Data Processing System |
| | Friden Flexowriters |
| | Teletype Model 35 Teletypewriters |
| | Bell System Data-Phone Data Sets |

## Synopsis


Wiegand Co., Pittsburgh, Pa., a major producer of heating units and related components, has successfully cut its order processing cycle from five days and more to a matter of hours. This cut has been accomplished through the use of a data transmission system based on WATS (Wide Area Telephone Service) which permits unlimited outward long distance calling at a fixed monthly rate. Equipment used consists of Teletype Model 35 Teletypewriters equipped with Bell System Data-Phone data sets. The teletypewriters produce and transmit eight-level punched paper tape which can be directly processed by the company's Monrobot XI computer system and Friden Flexowriters.

Incoming customer orders are now prepared in tape form as well as hard copy by the Flexowriters. These tapes, which contain complete customer and order information, are transmitted via teletypewriter to the two Wiegand warehouses in Fremont, Ohio, and Carlstadt, N. J. The warehouse teletypewriters are automatically activated when called by Pittsburgh. They reproduce the incoming data in tape form to provide input to the Flexowriters for production of invoices and related documents, which are then sent to the shipping department for immediate action.

Pittsburgh nightly receives data on shipments made that day and other pertinent information from each warehouse. This procedure is in exact reverse of that used for order transmission. It provides computer tape input for rapid preparation of inventory, accounting and related reports. Wiegand management is thus now able to receive on a day-by-day basis completely current data on the activities of the entire corporation.

Creative use of business communications services is enabling many geographically dispersed companies today to eliminate traditional problems in coordinating far-flung operations, thereby achieving important breakthroughs in management efficiency and control.

An example of this trend in the industrial manufacturing field is the Edwin L. Wiegand Co., major producer of heating units and related components. By using advanced teletypewriter facilities over regular telephone lines, the company has established an economical information system that links distribution facilities at Carlstadt, N. J., and Fremont, Ohio, directly with its computer center at Pittsburgh headquarters.

## Wiegand Information Handling System

Previously, Wiegand used conventional order handling and inventory replenishment procedures. Incoming orders were processed by a Monrobot XI data processing system and records prepared by Friden Flexowriter facilities (see Fig. 1). Action paperwork was then mailed to the appropriate warehouses. Upon filling the order, records would then be returned by mail to headquarters for inclusion in production, sales and shipping reports.

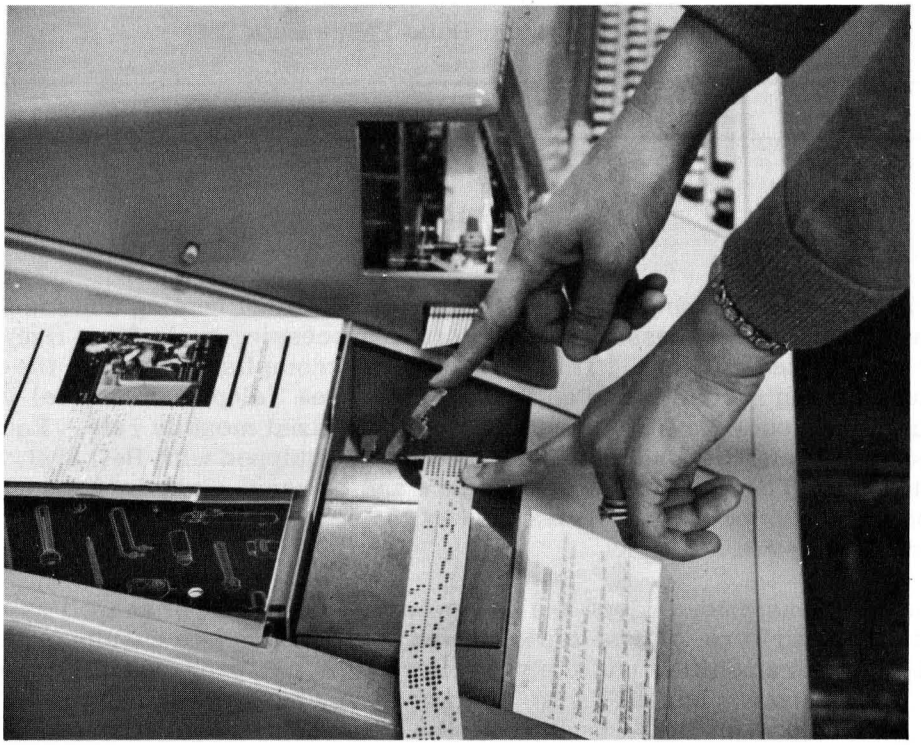

Fig. 1 - MODEL 35 TELETYPEWRITERS produce punched paper tapes which, when transmitted, between Wiegand headquarters and outlying warehouses, provide computer and Flexowriter input for the company's speedy order processing system.

"At best," reports C. F. Kreiser, vice president of marketing, "this cycle took five days to complete. Delays in the mails and other unpredictable factors often resulted in even more protracted periods. The paperwork burden was also substantial, representing considerable administrative detail and clerical expense."

Basic facilities in Wiegand's present data transmission system are Model 35 teletypewriters (see Fig. 2), manufactured by Teletype Corp. and marketed through the Bell System. Designed for use in data processing systems, these units produce and transmit eight-level punched tape which can be fed directly into computers or other data processing equipment.

Fig. 2 - WIEGAND COMPUTER CENTER features Monrobot XI computer (center), used to process orders and Model 35 teletypewriter (far left) which rushes computer tape output to warehouses.

At Wiegand, the teletypewriters are equipped with Bell System Data-Phone facilities which permit transmission over the company's WATS (Wide Area Telephone Service) lines, thereby avoiding the relatively high cost of using private transmission channels.

WATS is a phone service enabling unlimited outward long distance calling at a fixed monthly rate. Wiegand uses WATS primarily for verbal communications during most of the business day. The service is employed for transmission of teletypewriter information to warehouses at periods when the lines normally would be idle.

Under the system thus elaborated, paperwork activities have been substantially reduced. Incoming customer orders processed by the computer are now prepared in punched paper tape as well as hard copy by the Flexowriters. These tapes contain complete shipping information, including customer's name and address, shipping instructions, bin and part numbers, item quantities and special instructions.

Periodically throughout the day - generally once in the morning, at noon and in the evening - connections are made by headquarters with both warehouses, using the WATS lines. The tapes are then inserted in the Data-Phone equipped teletypewriters and transmitted to the appropriate warehouse.

When called by Pittsburgh, warehouse teletypewriters are automatically activated, thereby eliminating the need for operators at the receiving locations. These units reproduce the incoming data in tape form, duplicating the information transmitted. The tapes are then fed to the Flexowriter facilities for production of invoices and related documents. These are then sent to shipping departments for immediate action.

Each night, the warehouses are also polled by Pittsburgh for receipt of data on shipments made that day, as well as for other pertinent information. In exact reverse of the order transmission procedure, shipping data at the warehouse is produced by Flexowriter facilities and transmitted by the teletypewriters in tape-to-tape form back to central processing in Pittsburgh.

There, the information is computer-processed for rapid preparation of inventory, accounting and related reports. Wiegand management, can thus now receive on a day-by-day basis completely current data on the activities of the entire corporation. This operation would have required nearly a week under previous procedures.

## Results

According to Kreiser, the system has enabled Wiegand to cut up to four days off its order processing cycle. This cut is resulting in a substantial reduction in inventory levels at the outlying locations, while slicing general administrative and paperwork costs.

"Although the tangible benefits of quick order processing and reduced inventories are significant," Kreiser points out, "we feel that improved information control is the salient factor in the new system. Management is now being supplied with comprehensive reports on company activities that are considerably more current than possible under previous procedures. This provides us with better decision-making capabilities, permitting greater flexibility in dealing with customer demands. We feel that this ability to supply key personnel with facts and figures that are news, not history, will result not only in improved corporate operations but in significant competitive advantages."

The existence of WATS facilities has provided the main basis of the company communications system thus achieved. "We found," Kreiser states, "that we could thus transmit large amounts of business data by teletypewriters and Data-Phone facilities without corresponding increases in transmission costs."

In addition, as a consequence of orders now being filled at Wiegand in hours, instead of days, the need for administrative detail in recording and processing orders at warehouses has been virtually eliminated, permitting more efficient personnel use and reduced handling costs. Similarly, the periodic transmission of data to warehouses during the day has enabled a steady flow of order posting, eliminating the peak and valley operations which were features of the previous system. This, periodic transmission in turn, has further contributed to heightened efficiency at the outlying sites.