INDUSTRIAL DATA PROCESSING APPLICATIONS REPORT

Applications	Order Handling
Type of Industry	Steel Producer
Name of User	Bethlehem Steel Corp. Bethlehem, Pa.

Equipment Used	Dictaphone FR-3600 Datafax Facsimile Receivers (12 plus 1 spare) Dictaphone FT-3600 Datafax Facsimile Transmitters (12) Dictaphone FR-1800 Datafax Facsimile Receivers (2) Dictaphone FT-1800 Datafax Facsimile Transmitters (2) Dictaphone FR-180 DP Datafax Facsimile Receivers (24) Dictaphone FT-180 DP Datafax Facsimile Transmitters (27) Dictaphone FR-2828 Datafax Facsimile Receivers (4) Dictaphone FT-2828 Datafax Facsimile Transmitters (4) Bell System Data-Phone Data Sets

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Synopsis

Over 35,000 orders per month for steel products are transmitted over Dictaphone Datafax facsimile transmitters from 30 district sales offices across the nation to Bethlehem Steel Corp.'s general offices in Bethlehem, Pa. This system, designed to improve customer service and increase operating efficiency, permits over 90 percent of customer's orders to be sent to the appropriate mill on the same day as they are received at the district sales offices.

Copy is produced by the Datafax units at the rate of 3, 4-1/2, and 6 minutes for each 8-1/2 by 11-inch sheet of copy. The 1800, 3600, and 2800 series units link district sales offices to the head office over special data-conditioned cables used solely for facsimile traffic. The 180 DP series uses the regular telephone voice circuits.

Each customer order is reviewed in the district sales office by sales assistants who are familiar with the customer's requirements. These people then prepare pressure sensitive labels which contain references to a master "Dresser Card" and the labels are applied to the original customer document for transmission. In Bethlehem, the customer's order with the label is conveyed to the Home Office unit Dresser who translates order information into mill language, sends it to the mechanical order entry area where data is transmitted to the appropriate production plant. The Datafax network is also used to transmit inquiries, order changes, production drawings and specifications, and computer estimate input documents.

Bethlehem Steel Corp. is the second largest steel company in the United States. A fully integrated organization, Bethlehem is active in all phases of steel manufacture, from mining to production and fabrication. The company employs more than 120,000 people, has 11 steel making plants and 43 other production facilities, including eight shipyards, plus a world-wide network of sales offices. In 1965, Bethlehem shipped about 13 million tons of finished steel and steel products.

Facsimile transmission of customer orders from district sales offices to the home office is speeding handling of orders and inquiries for Bethlehem Steel Corp., the nation's second largest steel producer. The company relies on a network of Dictaphone Datafax facsimile transmitters and receivers to cover the entire nation. Using it, exact copies of formal orders on a customer's own stationery can be sent in as little as three minutes from as far away as Seattle to the Bethlehem, Pa., head office. This network, Bethlehem reports, has also improved customer service and increased the company's internal operating efficiency.

OPERATOR TRANSMITTING TEST PATTERN PRIOR TO START UP.

THE SYSTEM

Bethlehem's Datafax network is composed of 87 Dictaphone facsimile units. This, Bethlehem claims, represents one of the largest facsimile systems in private industry. It is also one of the most flexible as the source document for Datafax transmission can be almost any legible document, preferably one on the customer's own stationery. Drawings, photographs and handwritten penned notes can also be rapidly transmitted with equal clarity.

DICTAPHONE DATAFAX FACSIMILE EQUIPMENT AT BETHLEM STEEL. DATA-PHONE EQUIPMENT IS ALSO USED.

The Datafax transmitters are used at 30 district sales offices located in 21 states and serving the entire nation. In addition, there are two-way links between the general offices at Bethlehem and the corporation's Industrial Fasteners production plants at Lebanon, Pa.; Seattle, Wash.; San Francisco, Calif.; and Los Angeles, Calif. There are also two-way links between Bethlehem and Burns Harbor Plant in Indiana; Bethlehem and Chicago and San Francisco sales offices; Los Angeles, San Francisco, Portland and Seattle sales offices and the respective Industrial Fasteners plants and warehouses.

The network is primarily a one-way facsimile transmission system. It handles more than 90 percent of the orders which flow from the district sales offices to Bethlehem. They represent a monthly volume of over 35,000-40,000 orders received over the head office's Datafax receivers. On the average, 93 percent of these orders get to the mill within the same day that they are received at the district sales office.

The system is also used to send production drawings and specifications, changes in orders, and rush lengthy inquiries from district offices' customers to the Bethlehem general offices. There, all orders and inquiries received by district offices are processed, as are computer records on the status of all orders, complete mill specifications and schedules. An inquiry received by Datafax can be keypunched into cards to provide computer input for prompt production of an estimate which is then relayed to the customer through the district sales office.

Twelve of the receivers are Model FR-3600 Datafax units, two are Model FR-1800, and four are Model FR-2828. Each is matched to the corresponding transmitter. All of these are connected by special data-conditioned telephone cables designed to reduce noise and other interference. These circuits are used solely to link transmitters and receivers in Bethlehem's "dedicated" Datafax system. An additional 24 FR-180 DP receivers are Dictaphone units which reproduce high quality facsimiles transmitted by 27 corresponding sending units via Bell System Data-Phone Data Sets and regular dial telephone voice circuits.

The copy produced by the Datafax facsimile system is at the varying rate of one 8-1/2 by 11-inch sheet of copy in about six minutes for the 180 DP series, 4-1/2 minutes for the 2828 series, three minutes for the 3600 series, and six minutes for the 1800 series. The image produced by the receiver, whether on a data-conditioned dedicated circuit or on a randomly selected telephone voice circuit, is electroplated on special paper yielding dry, odorless, complete hard copy ready for immediate use. The document to be transmitted may be any length with a maximum 8-1/2-inch width.

Order Handling Procedure

Each order is reviewed at the district sales office by a "dresser" who is familiar with the customer's requirements. He fills out a pressure sensitive label which is attached to the order and transmitted with it to the Facsimile Receiving Room at Bethlehem. The label shows such pertinent information as interpretation of grade of steel, processing instructions, scheduling and date shipment must be made.

At the Bethlehem office, orders are immediately conveyed over a multi-channel conveyor belt to a second dresser. He transfers data from the customer's order and translates it into mill language. He has available all the records concerning the customer's requirements as well as the booked-up status of the appropriate production mill. Mill orders from Bethlehem are transmitted to eight Eastern and three Western production plants for manufacture. These mills receive nine out of 10 orders on the same day that they are received by the district sales offices.

RESULTS

Maintaining the personal touch in order handling is among the results achieved through the Datafax network. Using this system, Bethlehem personnel easily adapt to the customer's way of doing things. No special form is needed in order to transmit an order or inquiry by facsimile unit.

Because the full, complete text is now rapidly available at the general offices, long telephone conversations covering orders, inquiries and order changes have been almost completely eliminated. These formerly took the time of two employes, and mistakes were frequent, particularly for rush inquiries of an involved nature. Now, a rush inquiry or a change in order, if given by the customer over the telephone, is entered on a special memo form and transmitted over the facsimile network to Bethlehem. Although the customer's formal order follows, usually by mail, the order can be entered in the normal way and there is no need to handle it twice -- once as a telephoned rush and again as a written, formal order.