Applications	Order Processing and Analysis
Type of Industry	Linoleum and floor covering manufacturer
Name of User	Barry Staines Group London, England

Equipment Used	Burroughs B283 Data Processing System Burroughs F1200 Sensimatic Accounting Machines (Four) Telex Network

Synopsis

A leading British linoleum and floor covering manufacturer, the Barry Staines Group, is computer-processing orders from over 9,500 sales outlets in spite of the wide variance in incoming order frequencies.

The company's Burroughs 283 data processing system, installed to handle the growing volume of business and concommitant paperwork demands, is operated by a staff of twelve, including programers, machine and punch operators who function in the "clean room", specially built computer facility at the company's headquarters near London Airport.

Customer orders are immediately processed when received starting with formulation of acknowledgements of the orders, followed by delivery instructions to the factory, preparation of transportation consignment notes, invoicing, sales ledger, statements of account and sales statistics.

Upon receipt of an order, the sales department does a quick check of the customer to ensure that the customer is active within their files. The order is then further checked for legibility and to determine if goods requested are currently in stock. Credit control next determines the customer's credit status. These steps have prepared the order for the automated processing procedures which follow.

Orders are processed and reports formulated for sales analysis based on information keyed onto specially designed "Accepted Orders" forms. All customer and order information finds its way onto the form during processing of the order including stock control and customer's order numbers, delivery address, purchase details, order date, type of goods, pattern and grade, and shipping information and costs.

Growing business volume demands a constantly updated approach to paperwork handling methods, even in a country whose tradition of business efficiency is among the oldest in the Western World. Many British manufacturers have thus accepted that electronic data processing must now be considered a "business fact-of-life."

To meet the press of the growing clerical tasks connected with expanding business volume, one such British firm, a leading linoleum and floor covering manufacturer, The Barry Staines Group, now is handling this multi-faceted order processing aspect of its business with an up-to-date electronic data processing system.

Background to EDP

In the 100 years since linoleum was invented, linoleum and floor covering has become big business. The Barry Staines Group, specialists in linoleums and floor coverings, which maintains offices near London airport, now has a large share of the total United Kingdom's production. A branch of a multi-million pound firm, it also has a thriving export business for its floor coverings and subsidaries in countries through out the world.

What the Barry Staines Group must contend with in their daily business procedures is the varying frequencies of incoming orders for their goods. When you have over 9,500 sales outlets, this is a sizeable clerical task. Some customers -- wholesalers and central buying departments of many multi-branch firms, as well as the group's own sales representatives and warehouses -- will telephone or Telex orders to the main office several times in a single day. At the other extreme there are those who require only two or three deliveries per year. Wholesalers frequently place orders for shipment directly to their retail distributors. Although most customers are specific in their requirements, others are vague or inconsistent, ordering by length, area or weight, or for remnants. Floor tiles may be requested by box, quantity or area, and polishes and various other items can be- and are- ordered in varying quantities.

Consequently, to meet their growing volume of business, Staines Group decided to order a Burroughs B283 data processing system. Since the system's delivery, the newly-established computer department's present staff of 12, including programers machine and key punch operators, handles all the work once performed manually by a 50-member clerical staff, prior to the company's move from its former main offices in the City of London.

The immediate problems to be initially run on the computer are acknowledgements for customers, delivery instructions for the factory, preparation of the carriers' consignment notes, invoicing, sales ledger, statements of account and sales statistics.

Thus, dealing with daily orders is now a well-established routine. On receipt of every order, the sales department does a quick check to ensure that the customer is on their books, the order is in acceptable and readable form and the patterns requested are in current supply. The document is then passed to stock control to allocate the goods from warehouse supplies and, when stock is insufficient to meet the demand, to estimate when delivery can be expected. From here on it goes to credit control where, after checking the customer's credit-worthiness, preparations are made for the automated stages.

Automated Order Processing System

Automated order processing begins when the customer's account number is entered on a specially designed "Accepted Orders" form, after initial checks have been made to determine availability of the merchandise and the status of the customer's credit. This number is in a 12-digit code, the first two digits representing the ledger number and the following six the customer's main account number, coded for name and address. The last four digits comprise a suffix for any branch address to which deliveries of the goods are required. Up to eight items can be dealt with on one order, each being treated as a separate record in the computer, though all will go out in one consignment and appear on the same invoice.

The new form is then sent to the input control section of the computer department, where the remaining details are entered in preparation for punching the information on to paper tape. To ensure the accuracy of the data, and its positioning for punching, a strict procedure was devised.

The form is divided into sections for entering the sequential stock control and customer's order numbers; delivery address (where this differs from the address on file); purchase details (where applicable); order data (classifying type of goods, pattern, grade and delivery date); and whether shipping costs have to be charged. Each section of the form is sub-divided into boxes, each taking one alphabetic or numeric character. The customer's name and address box is filled in only when the sales department takes orders by telephone or when, for some other reason, the sales document is not attached to the form. Finally, selected key numeric data on the form are totalled and a check digit sum is entered on the top right hand corner of the form.

BURROUGHS B283 COMPUTER SYSTEM processes orders from 9,500 sales outlets.

In the punch room, four Burroughs F1220 Sensimatic machines with accounting and typewriter keyboards are used for paper tape preparation, producing hard copies for visual verification of data. With their built in calculating functions, they automatically do the check sum during the punching operation, so that no further tape verifying is needed.

Following the initial keying-in of the check sum, the data is punched in random customer order. If these are correctly recorded and punched, a zero balance will register at the end of the line on the hard copy, producing a "valid end-of-record" mark. If a zero is not produced on the last column, the document is returned to input data control for checking and later fed back into the system. While the computer is programed to reject any data which does not balance, rejection at this time reduces wasted computer time and minimizes unwanted print-out during machine runs.

When completed, the punched tapes are passed via input data control into the computer room for processing.

In the computer operation, the first object is to print the acknowledgement order forms. Customer details are held in account number order in a master file on magnetic tape. As the punched tape with the order data is read into the computer, an initial edit run rejects and prints out any items requiring checking. A sort run then arranges the order tapes into account number sequence for the following matching run. As an account number in the master file is matched with the same account number on an order, the data is entered on a new magnetic tape, which at the end of the run will contain the day's order data in account number sequence. This tape holds customer and transaction data, including unit prices and sales terms which are held in the tables in the program. During this operation, the acknowledgement forms are printed.
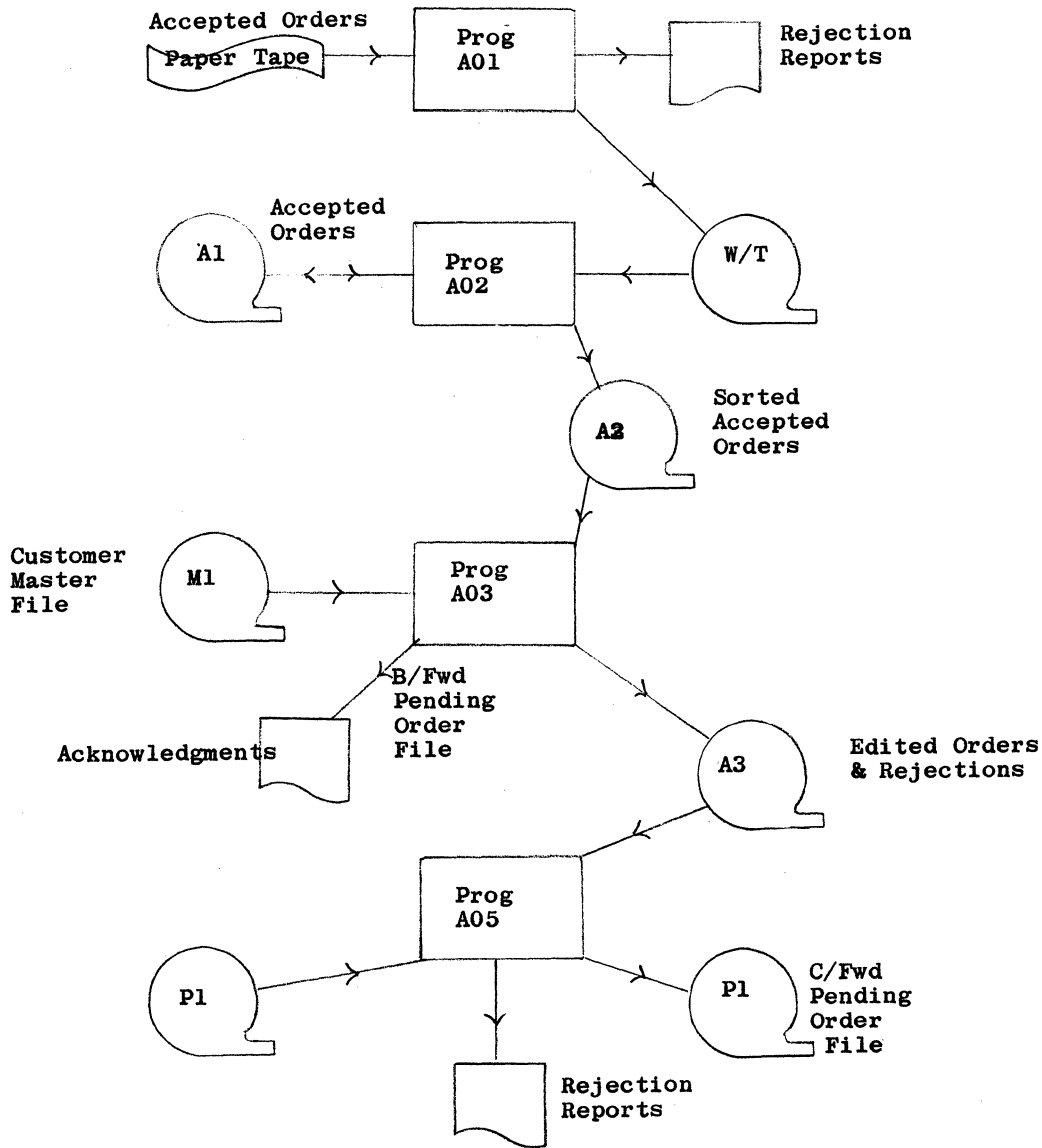
BARRY STAINES ACKNOWLEDGEMENTS

Prog A01

1. Input accepted orders. Forward to file A1.
2. Print details of rejected records.

Prog A02

Sort data file to account No. sequence.

Prog A03

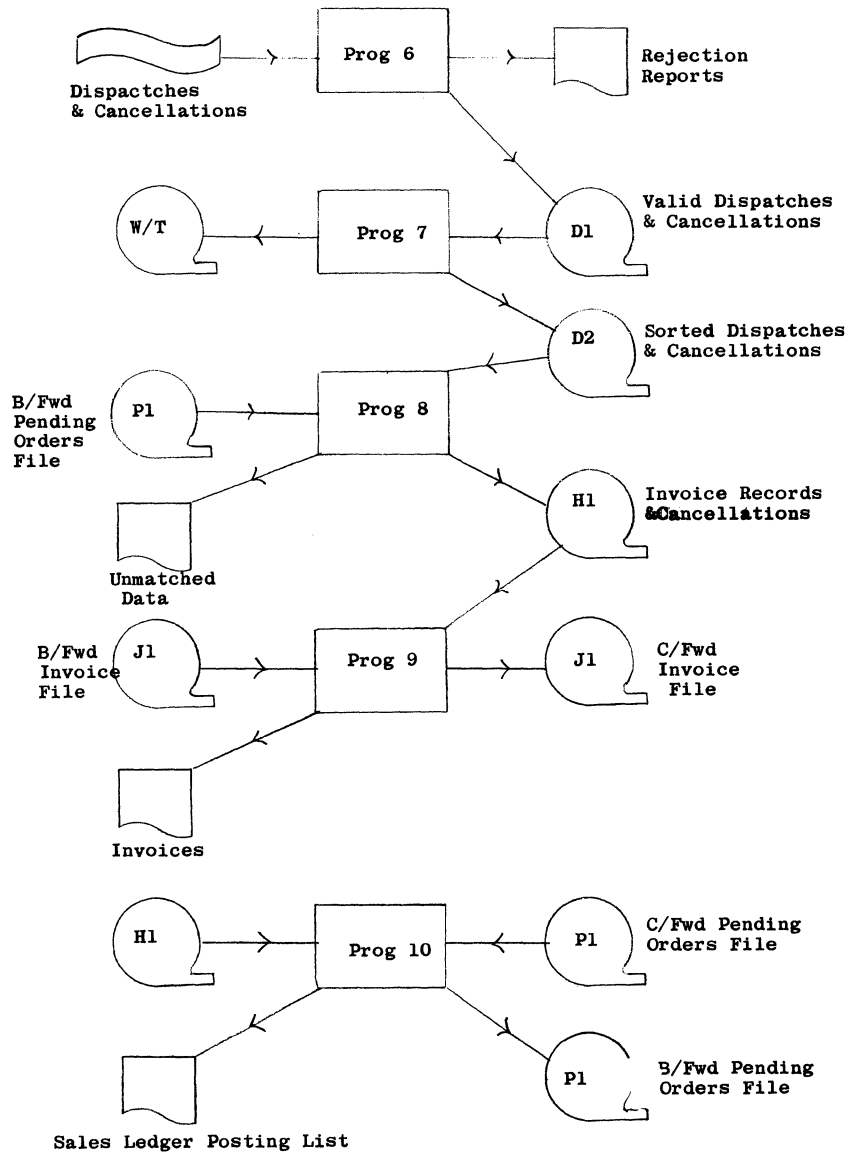1. Match accepted orders against master file.
2. For each matched order:

(i) Augment with customer details & write. Forward to file A3.
(ii) Print acknowledgement.
3. For each unmatched order write. Forward details to file A3.

Prog A05

1. Update pending order filw with accepted orders.
2. Print details of duplicate orders and un-matched orders.

BARRY STAINES INVOICING RUNS

Prog 6

1. Read Dispatches from P/T.
2. Vet Data & Print Rejections.
3. Write Valid Data to Mag Tape.

Prog 7

1. Sort Dispatches & Cancellations to Account No. Sequence.

Prog 8

1. Match Dispatches & Cancellations against Pending Orders File.

2. Print Details of Unmatched Data.
3. Form Invoice Records for Matched Dispatches & Write to Mag Tape.
4. Write Matched Cancellations to Mag Tape.

Prog 9

1. Update Invoice File with Today's Invoices.
2. Print Today's Invoices.

Prog 10

1. Update Pending Orders File with Invoices & Cancellations.
2. Print Sales Ledger Posting List.

Unmatched orders are printed out for manual check. The orders are then accumulated in the pending orders file to await notification of shipment when they are down-dated.

Five-part carbonless sets are printed, the top copy going to the customer. Of the remaining copies, two are for instructions to the warehouse, one for carrier's consignment note and the fifth is retained in the sales office where it is filed for reference. Adhesive labels, with delivery address for shipping of goods, are printed in a further run, a separate label being supplied for each item on the shipping order.

The warehouse copies are double sized, the front printed during the acknowledgement order run with customer name and address, and goods to be supplied. On the receipt of these in the warehouse, the reverse side is filled in with items actually taken from stock, listing pattern, order and internal stock control numbers, each item shown separately.

When the shipping department has filled in the reverse side of the form to indicate that the goods have been sent out, one copy is passed to input data control for insertion of the account number, together with stock control information for matching this data with pending orders and down-dating the pending orders file. A sequential security number is inserted to ensure that the goods do not go out without official sanction and the follow-up invoice. A register of these numbers includes a check sum routine. This is followed by edit, sort and match runs (as in the acknowledgement forms procedure), with unmatched date printed out for checking. A new magnetic tape is produced from which the bills are printed and mailed.

The sales ledger is also run through daily, updating accounts with cash payments and debit and credit noted. As with the previous runs, following the initial editing and sorting routines to print out rejects, the files are updated and statements are printed and issued periodically.

The master file, in addition to customer data, also includes representatives area numbers and methods of payment. The new magnetic tape produced in the invoicing run is mixed with the master file data and basic statistical programs to produce monthly sales statistics for management information, broken down into representative area type of product, pattern, gauge of material sales outlet, etc.

Results and future plans

Initially, the immediate problems that faced Barry Staines Group and the utilization of the data processing system were acknowledgement of customer's orders delivery instructions to the factory, preparation of carriers' consignment notes, sales ledger statements of accounts and sales statistics. Once this work has been well established, the next phase, already in preparation, will include payroll, stock and credit control and overdue payments lists. Similar work is also planned for other companies in the group, which will almost double the number of customers on file. In addition, though is being given to extending the present Telex system to data transmission techniques, which will be important when other centers in the group use the central computing system.

Finally, one basic aspect of the Barry Staines utilization of their EDP system is that it is working on the principle of management by exception. Only information likely to be of direct management value is printed out, in addition to needed routine operations. This keeps hard copy output down to essentials and avoids the production of reports and statistics merely for their own sake. However, in order to ensure that no important information is overlooked, the computer has been programed to head any special print-out with the title "For special investigation".

Robert Rennie, computer manager of the Barry Staines Group, states that, "Since we installed our system, we guarantee that every order which arrives in our credit control department by 11:45 a.m. will be acknowledged and instructions issued to the factory by 1:45 p.m. When stock and delivery present no problems, the goods can also be shipped the same day."