

# INDUSTRIAL DATA PROCESSING APPLICATIONS REPORT

**Applications** Inventory Control  
**Type of Industry** Automobile Parts Distributor  
**Name of User** Riviera Motors, Inc.  
Beaverton, Ore.

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**Equipment Used** IBM System/360 Model 30, including:  
2030 Processor, Model D, 16 K  
1401/1440/1460 Basic Compatibility  
1402/1403/1311 Basic Compatibility  
1052 Console Printer  
2540 Card Read Punch  
1403 Model 2  
2311 Disc Storage Drives (three)

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## Synopsis

An IBM System/360 Model 30 computer system is being used to control inventory of automobile parts at Riviera Motors in Beaverton, Ore., as well as at the parts departments of some 65 Volkswagen-Porsche dealers.

Each of the 21,000 items in each warehouse is listed on a punched card which is sent to Riviera Motors' data processing center in Portland, Ore. Storage of this data is maintained on disc files.

The system produces a number of reports including a Suggested Parts Order report and a Business Management report. The latter report is generated every month on each dealership to show three-month trends and record analyses on the total operation, new vehicle sales, used vehicle sales, service department and parts department.

A policy adopted by Volkswagen of America assures every Volkswagen buyer that, no matter where he may live in the United States, any part for his car will be available immediately from a nearby dealer.

As one of the country's 14 distributors of Volkswagen and Porsche cars, a major concern at Riviera Motors, Inc., is to maintain that established level of service in the five-state Pacific Northwest territory. To back up an annual sales volume of approximately 20,000 new cars a year, and to supply the growing replacement parts requirements of the territory, Riviera Motors, Inc., now maintains a \$5 million inventory in its Portland warehouse, comprising some 21,000 different VW and Porsche parts, including tires, batteries and a full line of accessories.

Using an IBM System/360 Model 30, Riviera Motors has developed a control system that assures proper inventory levels at all times of all parts carried in its warehouse, as well as in the parts departments of its 65 VW-Porsche dealers. In addition, the computer is used to generate a number of management control reports which improve the distributor operation as well as helping individual dealers improve the profitability of their businesses.

The dealers find that, because the computer does most of the work, their role in maintaining the program is relatively easy.

### THE SYSTEM

Under the new procedure each dealer is first supplied with a punched card for each of the 21,000 items in his stockroom. The dealer then takes a physical inventory, listing on each card the amount in stock and a six-month sales history on the item.



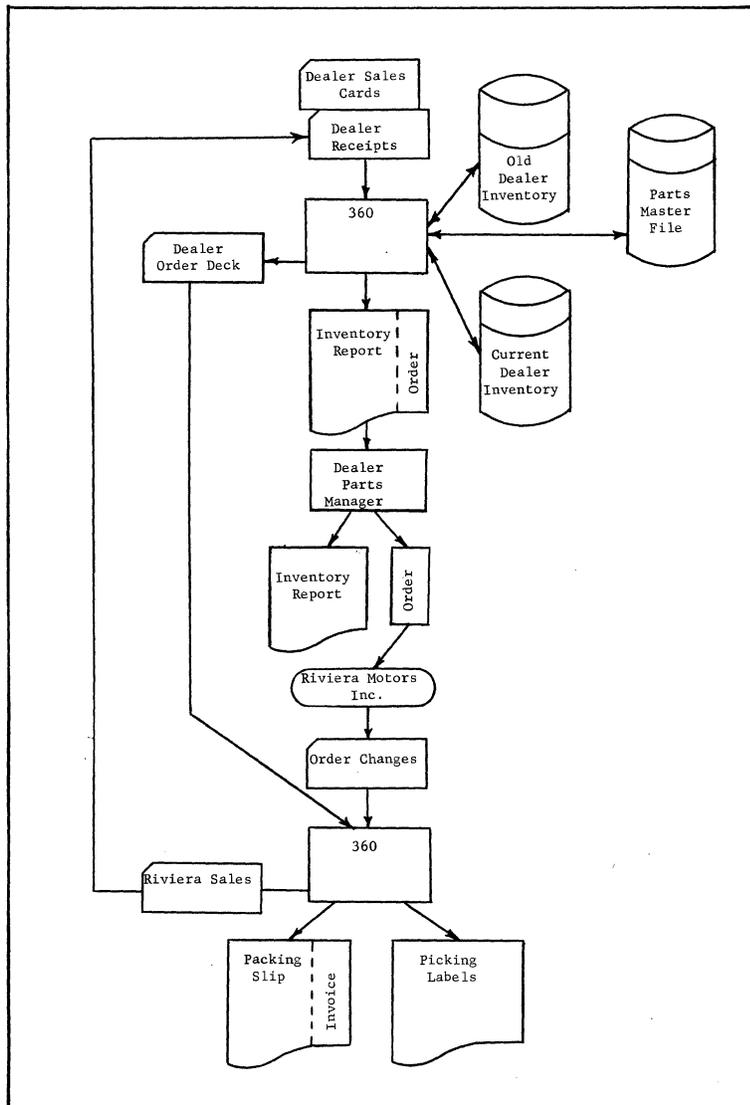
PICKING LABEL IS ATTACHED TO PARTS. THE LABEL LISTS THE BIN NUMBER (at left), THE PART NUMBER, THE DESCRIPTION, THE QUANTITY AND THE DEALER NUMBER. THE LABEL IS CHECKED AGAINST THE PACKING SLIP PRIOR TO SHIPMENT.

These cards are sent to Riviera Motors' data processing center in Portland, where the physical count and sales history information are punched into the same cards. They are then used to feed data into the computer via a direct access data storage method to build a master inventory and parts sales history file for each dealer.

The huge volume of inventory information is fed into a series of interchangeable direct access disc storage packs, and the computer is able to locate and make use of any bit of data from these files in an average time of 75 milliseconds.

Information in the disc files is first used by the computer to prepare additional decks of inventory cards. Each month the dealer writes the number of parts sold during the month on the cards. The monthly sales information is compared by the computer with the dealer's master inventory file, and six-month and 12-month sales histories on each item.

These comparisons are then used by the computer to generate a monthly Dealer Suggested Order/Inventory Report. This report tells the dealer exactly how many of what parts he has in inventory, gives a 12-month sales history on each item, and suggests how many of each part the dealer should order from the warehouse so as to maintain an inventory in correct ratio to sales.



FLOW DIAGRAM OF  
INVENTORY CONTROL SYSTEM  
AT RIVIERA MOTORS.



INVENTORY CARDS ARE SORTED IN AN IBM 84 CARD SORTER PRIOR TO FEEDING INVENTORY DATA TO THE COMPUTER.



CARDS SENT IN BY VOLKSWAGEN DEALERS ARE PUNCHED IN RIVIERA MOTORS' PORTLAND DATA PROCESSING CENTER.

In addition to taking the guesswork out of dealer inventory control, the monthly report also saves the dealer the drudgery of having to prepare orders manually. This is accomplished by a tear-off section on the report. When sent to Riviera Motors, this becomes the dealer's actual monthly parts order. The suggested amounts appearing on the report also appear on the order portion, and will be the amount shipped unless the dealer should decide to indicate a revision. He does this manually in a space provided.

When the order is received, new cards are punched only on those items where revisions are indicated. This new data replaces the previous suggested amount in the disc file. The computer then prints a combination form, comprising the packing slip and the dealer's invoice covering the entire order.

Using the same data, the computer also prepares a series of pressure-sensitive picking labels -- one for each item on the order. In addition to showing the part number, description, quantity ordered and dealer code number, these labels also indicate the exact location of the part by warehouse bin number, thereby serving as a guide to the order picker. As each item is selected, the appropriate picking label is applied to it. When the order is assembled for shipment, each label is checked against the packing slip to make sure that all items are enclosed.

Each time the computer processes an invoice, it automatically updates the dealer's inventory file, showing additions made to his stock. Simultaneously, it updates the master inventory, showing reductions the shipment has created.

Because most of the parts are shipped from Europe, there is a time lag of about three months from the time an order is placed until the day it is delivered. Under these circumstances the normal inclination would be to overstock those items in greatest demand so as to create a wide safety margin and avoid any possibilities of "stock-outs"; however, overstocking would greatly increase the cost of holding, particularly in view of rising warehousing costs.

The System/360 has enabled Riviera Motors to solve this problem, and with it they have developed an effective procedure for maintaining a high service level inventory in the warehouse while holding storage costs to a minimum.

This is accomplished by generating a monthly Suggested Parts Order report similar to the one that is prepared for the dealers. This report shows the frequency of movement and a sales history of each item over a 12-month period, and the amount of each on-order or back-ordered item, as well as the dates previously ordered items are due to arrive. The computer then compares all of these factors with the quantities in our updated inventory, and indicates a suggested order for each item. Thus, overstocking is minimized even as high service levels are maintained.

A Business Management Report provides an example of how the vast amount of data stored in the computer's files is used to make an in-depth analysis of every phase of a dealer's business. This report is generated each month on each dealership, and is broken down five different ways to show a three-month trend and record analysis on (1) total operation, (2) new vehicle sales, (3) used vehicle sales, (4) service department and (5) parts department.

The dealer's total monthly gross sales and gross sales in each department are shown, along with gross profit figures, a percentage comparison of gross profit to sales, and gross profit per-new-vehicle or used vehicle sold.

One of the features of this report is an analysis of each dealership as compared with the average of all other dealers in the same classification. In addition to gross sales and profits, these comparisons cover such items as operating income, selling expenses, employe expense, semi-fixed and fixed expense, occupancy expense, accounts receivable, notes payable, and other economic factors in the dealer's business.

The report is used by district managers, service representatives and parts representatives in five sales districts to assist them in the continuing job of counseling dealers and their key personnel. The up-to-the-minute information it contains makes it an essential tool for increasing sales and improving profits at all of Riviera's dealerships.



IBM SYSTEM/360 MODEL 30 AT RIVIERA MOTORS.



A REPORT IS BEING CHECKED AS IT IS PRINTED ON THE IBM 1403 PRINTER (left). A BUSINESS MANAGEMENT REPORT IS REVIEWED BY RIVIERA MANAGEMENT (right).

A weekly distribution report shows sales volume to dealers in each of seven categories of inventory: (1) parts, (2) exchange items, (3) tires and batteries, (4) radios, (5) accessories, (6) shop tools and (7) sales and technical literature. This provides district parts representatives with an additional tool for improving sales by inventory type at dealerships in their district.

#### RESULTS AND FUTURE PLANS

The possibilities for using the computer to improve total business appear to be unlimited. At present, Riviera Motors is programming a procedure that will provide complete accounting services for each dealer, in addition to inventory control. This service will include running the dealer's accounts receivable statement, posting his journal to a general ledger, and preparing his monthly financial statement. When this service gets underway, it will provide Riviera Motors with additional opportunities to upgrade dealerships and increase profits throughout the entire distributorship.

Plans for the immediate future also include a customer follow-up system, wherein the computer will automatically send postcards to a dealer's customers, reminding them when service is due on their cars.