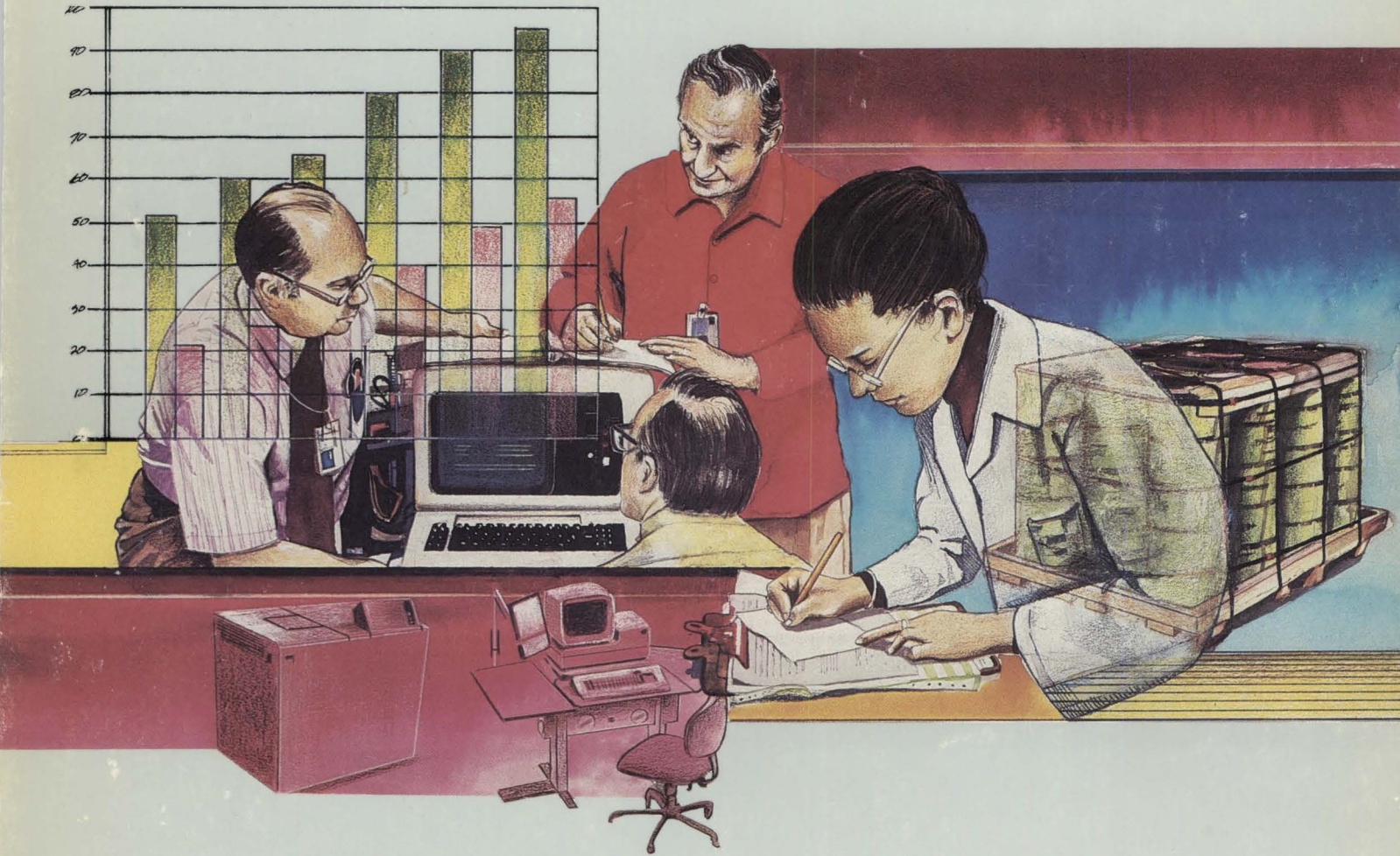# Introducing Order Processing & Accounting Applications

General Information

IBM System/36 Manufacturing Accounting and Production Information Control System Version 2.

IBM

Information Programming Services

Introducing Order Processing and Accounting Applications

IBM System/36
Manufacturing Accounting and Production
Information Control System
Version 2 (MAPICS II)

General Information Manual

Program Numbers:
5727-M74 Accounts Receivable
5727-M75 Inventory Management
5727-M78 Sales Analysis
5727-M79 Order Entry and Invoicing
5727-M7K Purchasing
5727-M7P Location/Lot Management

File Number:
S36-72

To the reader

This publication discusses the order processing and accounting applications of the Manufacturing Accounting and Production Information Control System Version 2 (MAPICS II). Throughout this publication, all references to MAPICS apply to MAPICS II. MAPICS consists of 19 interrelated applications designed for the manufacturing and related process industries. Those applications are:

> Accounts Payable
> Accounts Receivable
> Capacity Requirements Planning
> Cross Application Support
> Data Collection System Support
> Financial Analysis
> Forecasting
> General Ledger
> Inventory Management
> Inventory Management for Process
> Location/Lot Management
> Master Production Schedule Planning
> Material Requirements Planning
> Order Entry and Invoicing
> Payroll
> Product Data Management
> Production Control and Costing
> Purchasing
> Sales Analysis

Six applications—Order Entry and Invoicing, Inventory Management, Location/Lot Management, Accounts Receivable, Sales Analysis, and Purchasing—are discussed in this publication. For information on the other applications in MAPICS, see the following publications:

- *Introducing Financial Applications* (GH30-9004) for the General Ledger, Accounts Payable, Payroll, Data Collection System Support, and Financial Analysis applications
- *Introducing Advanced Manufacturing Applications* (GH30-9006) for the Inventory Management, Product Data Management, Master Production Schedule Planning, Material Requirements Planning, Production Control and Costing, Capacity Requirements Planning, Data Collection System Support, Purchasing, Forecasting, and Location/Lot Management applications
- *Introducing Process Applications* (GH30-9008) for the Inventory Management for Process, Product Data Management, Master Production Schedule Planning, Material Requirements Planning, Production Control and Costing, Capacity Requirements Planning, Purchasing, and Forecasting applications.

How this book is organized

This book is divided into three sections. In the first section, which contains general information about the System/36 and six applications, you will find a brief overview of what the applications are and what they can do for you. The second section of the book contains more detailed information about the applications. The third section contains miscellaneous detailed information and a glossary of terms used with System/36 MAPICS application programs.

Contents

Figures

Section 1. Overview

IBM System/36 applications can help you find solutions

In your business, everything relates to the order you receive from your customer. The task of shipping the right product to the customer on an agreed-to schedule is not simple. Your customers are constantly demanding newer, better products; and internally, you must continually balance sales objectives against production capacity, sales price against costs, inventory levels against working capital. Also, everyone from your auditing firm to governmental agencies and consumer groups is telling you to keep better, more detailed records. To be successful in this business, you need answers—lots of them. Which products should we stock? Do profit margins compare to last year? How much inventory do we have now? Can we cut it? How did we miss a change in ship dates? How big is our backlog? Why do we continue to ship stock to slow-paying customers? To answer these questions and formulate long-term strategies, you need the facts. But because the data making up the facts changes rapidly, you need information fast and in a format you can use.

IBM's Manufacturing Accounting and Production Information Control System (MAPICS) can fulfill these needs. MAPICS takes a practical approach to customer order processing, beginning with order entry, acknowledgments, pricing algorithms, and backlog management, and continuing through preparation of shipping documents and invoices.

You can stop there, if you like, or you can activate the interfaces to other modules, including entry of standard features for end items, updating Inventory Management, Accounts Receivable, and Sales Analysis applications. In fact, you can use order entry data for material requirements planning and even production control. With few exceptions, you choose the applications and their sequence for installation. A modular approach such as this allows you to tailor the installation sequence to your current needs, while allowing for subsequent application growth.

There's an additional aspect to consider. The MAPICS Order Processing and Accounting series of application packages is designed specifically for a work station system, the System/36. Work stations allow you to move the power of the computer to the work, rather than vice versa. In the final evaluation, your own good judgment is critical to the successful achievement of your goals. But MAPICS can help make your job easier.

System/36 components

The System/36 is made up of components you select and put together to meet your specific needs.

The **processing unit** can have 128K, 256K, 384K, 512K, 768K, or 1024K of main storage (K means 1024 characters). Disk storage is available in the following sizes:

29.1 million characters
60.0 million characters
90.8 million characters
121.7 million characters
198.5 million characters
398.7 million characters
598.9 million characters
799.1 million characters

A **magnetic tape unit** allows you to save data from disk as permanent offline storage for archiving or backup. It can also be used to restore data to the disk for online processing.

Work stations have a 1920-character monochrome or color display, an 83-key conventional keyboard with function control keys, and a 10-key numeric pad.

The **system printer** can be either a line printer that prints up to 650 lines per minute, or a serial printer that prints 40 characters per second to 560 lines per minute.

Work station printers are serial printers that can print from 40 characters per second to 560 lines per minute.

Diskettes can be one-sided (with capacity for storing either 246,272 or 303,104 data characters) or two-sided (with capacity for storing either 985,088 or 1,212,416 data characters).

Up to 36 work stations and work station printers can be directly connected to the 5360 system unit. Up to 22 work stations and work station printers can be connected to the 5362 system unit. One work station must be within 20 feet of the processing unit and designated as the system console.

A **communications adapter** allows remote attachment of up to 64 additional work stations.

See "System requirements" in Section 3 for the minimum configuration required for the applications discussed in this book.

System/36 program products and applications

The System/36 hardware components plus IBM-supplied program products equal a total solution.

System/36 program products that include:

- The System Support Program (SSP) program product that controls and monitors the internal activities of the System/36 and allows multiple jobs to operate concurrently
- The Utilities program product used by the applications described in this book.

System/36 applications that consist of:

- Programs that allow you to select options to tailor your applications to your needs (system tailoring)
- Files of data that contain your business information
- Programs that process the data you enter and print reports
- File maintenance procedures to help you keep the data in your files current and accurate
- Inquiry procedures that let you display your current business information.

The work station approach

In a work station system, the emphasis is on accuracy of input data, availability of up-to-the-minute information, and the ability to inquire into data within the system.

When you use any of the applications described in this manual, you can use work stations to enter data, to display information, and to begin a job—three important data processing functions.

Data input at the source

With work stations, the person who uses the information can enter the data directly into the computer. Displays guide the operator through data entry for each item of information, displaying the results of processing for verification. The system edits the data for errors and displays error messages on the screen.

Errors can be corrected as they are discovered, by the people most qualified to correct them—the users themselves.

Up-to-the-minute information in the files

In a multiple work station system where the files are kept current, information is available to be displayed as needed. Information need not be manually transferred between departments, because the most current information is available in the system, where everyone can use it.

Inquiry into the data system

Inquiries can be made into the system for information such as sales or accounts receivable data. Since these inquiries need not occur from the work station where the information was originally entered, an executive who has his own work station can inquire into information stored in the System/36 without leaving the office.

Processing methods

The System/36 uses interactive processing, batch processing, or a combination of both to process your information.

Interactive processing

When the System/36 processes transactions or records as the operator enters data, it is operating in *interactive* mode. Each transaction is processed individually. The system processes the data and returns the results rapidly to the operator at the work station.

The interactive mode is used when data requires immediate processing. Examples of interactive processing are:

- Data entry and edit
- File maintenance
- Inquiries.

Batch processing

When the System/36 processes transactions or records together as a group, it is operating in *batch* mode. Batch processing is usually more efficient for data that does not require immediate processing and for printing reports.

Using the batch processing method, applications described in this manual can accept input data entered through a keyboard at a work station, data entered from diskettes prepared on an offline diskette entry system, or data collected by the IBM 5230 Data Collection System.

Examples of batch processing are:

- Updating master files with transaction data
- Printing invoices
- Printing stock status reports.

Multiprogramming

In the System/36, more than one job can run at the same time. This is called *multiprogramming.* Because of multiprogramming, the System/36 can support multiple work stations operating concurrently on different jobs.

With this feature, multiple programs share the System/36. For example, while one program waits for an input or output operation to be completed, another program can be executing instructions. As a result, the computer is used more efficiently and the total work load is completed faster than if the programs were executed one following the other.

Spooling

A facility that can increase the System/36's operating efficiency is spooling of print data. Data to be printed is stored on internal disk (spooled) and printed later. This allows you to concurrently run two or more jobs that generate printed output, because the output is stored on disk and is printed later.

Your system console operator controls spooling operations through System/36 operating commands.

Note: For more information on any of these processing methods, see *Presenting the System/36 Family*, GC21-9016.

Centralized environment

In a centralized environment, all System/36 equipment and operators are in one location. All input to the system is submitted to the central processing area and the results are delivered back to the submitting departments.

Advantages of this type of environment are:

- Control and scheduling of data processing activities are easier.
- Only the people in the central processing area need to know how to operate the System/36 and its work stations.
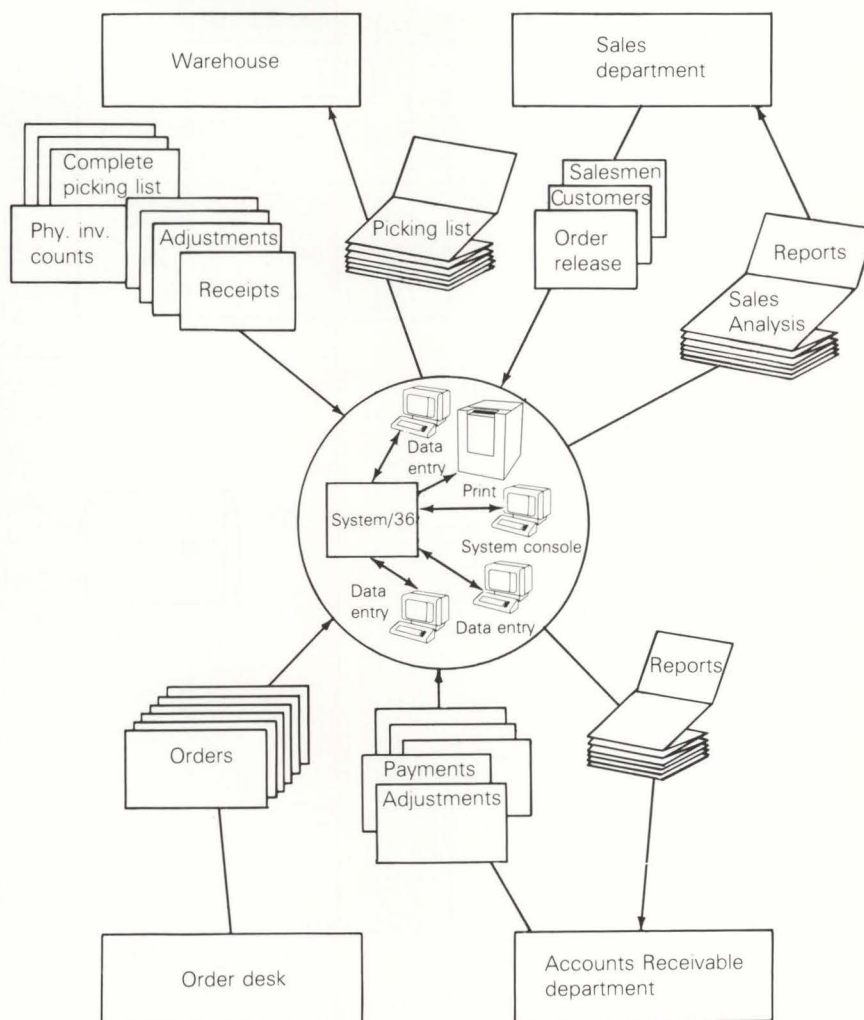
Decentralized work station environment

In a decentralized environment, one or more work stations and operators are located away from the main system. Local work stations can be as far away from the processing unit as 5000 feet. Also, remote work stations could communicate with the processing unit from anywhere in the world.

Advantages of this type of environment are:

- Processing is generally faster because each department enters information into the System/36 instead of forwarding it to a centralized area.
- Errors are reduced because the people most familiar with the information enter it into the System/36.

Warehouse

Receipts
Adjustments
Picking list
Bill of lading

Data entry
Print

Sales department

New customers
Order release
Inquiry

Data entry

Print

System/36

System console

Data entry

Invoices
Inquiry
Acknowl-edgments
Orders

Order desk

Data entry

Inquiry
Customer payments
Adjustments

Accounts Receivable department
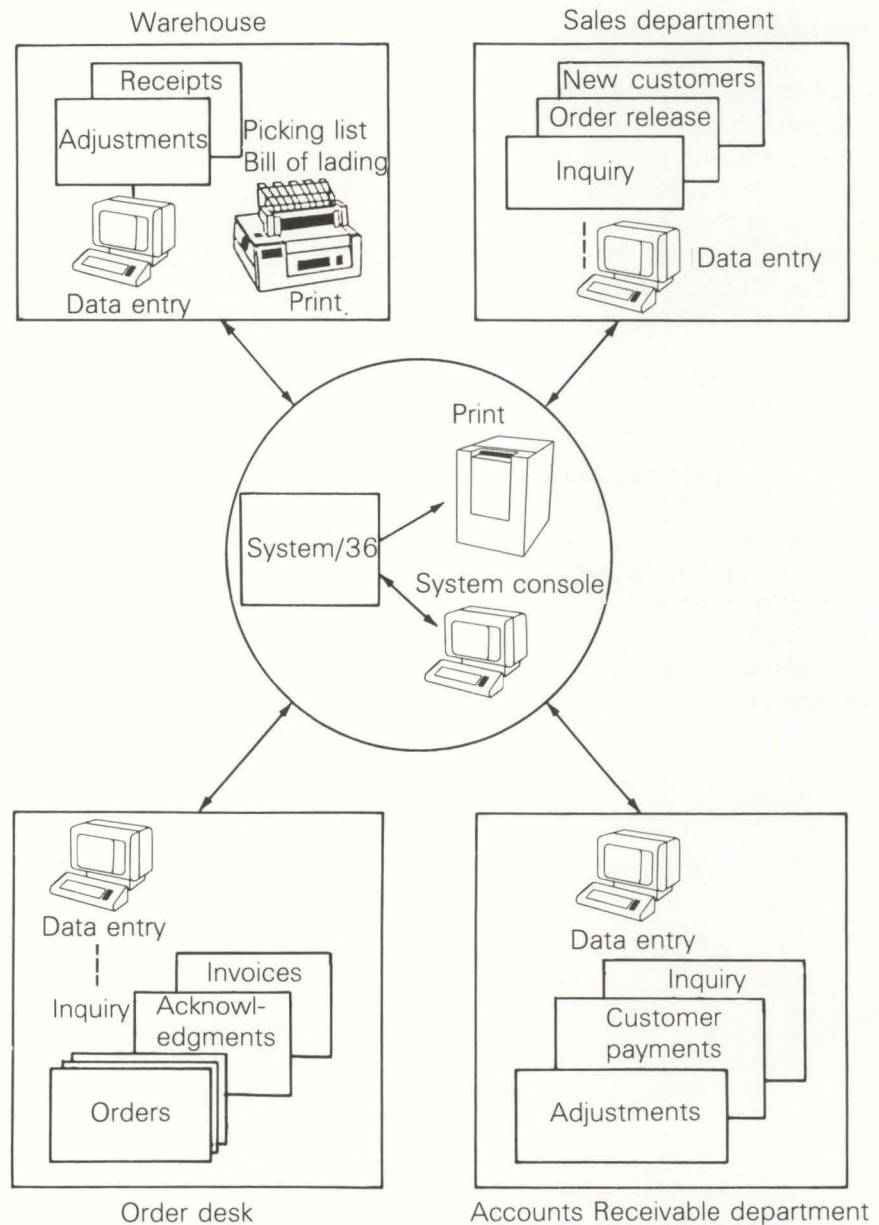
In a typical operating environment, the system accepts data and inquiries from work stations.

Management
Inquiries

Order Entry and
Invoicing

Inventory
Management

System/36

System console operator

Purchasing

Accounts
Receivable

Sales Analysis
reports
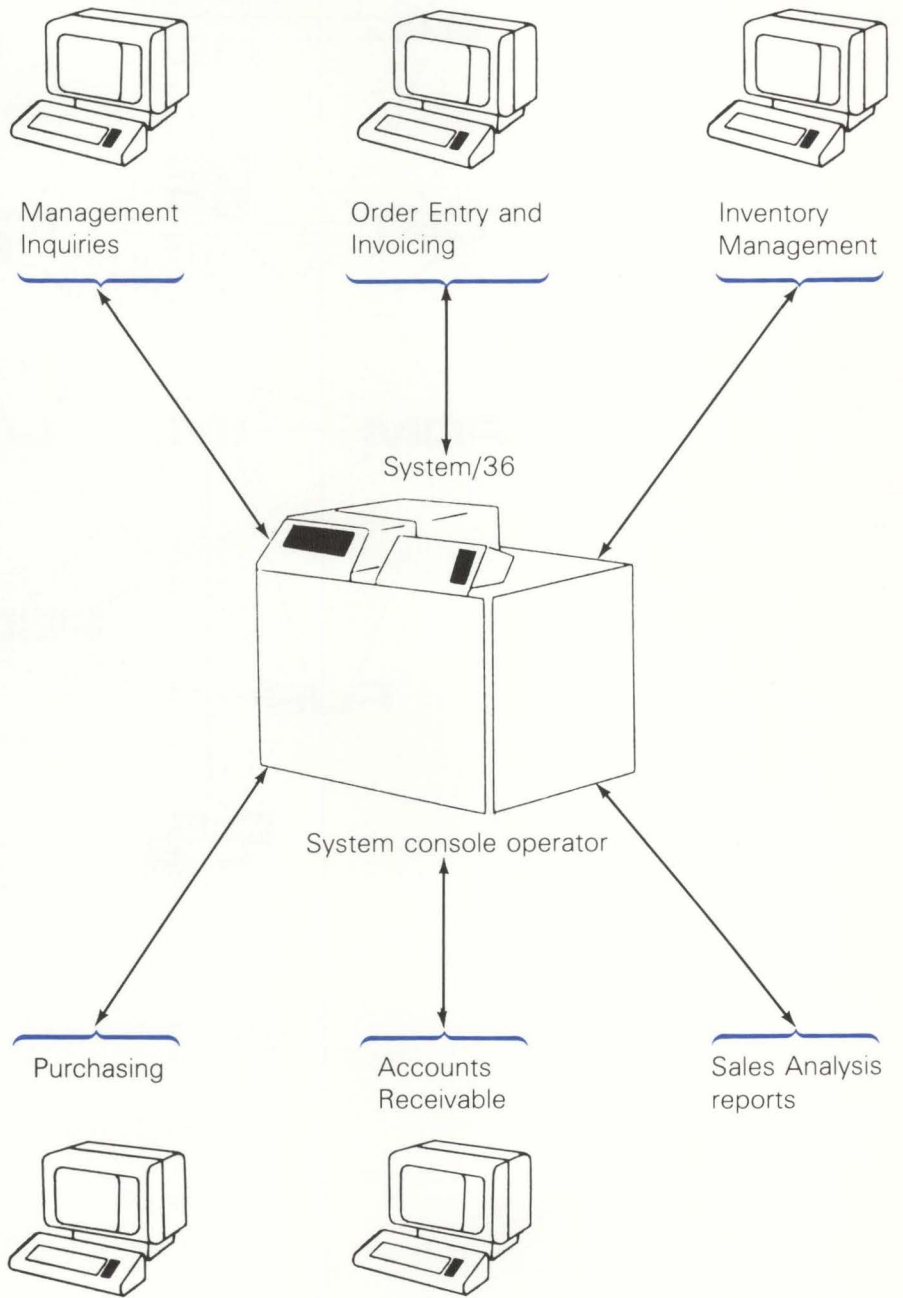
The system then
coordinates the flow of
information from one
application to another.
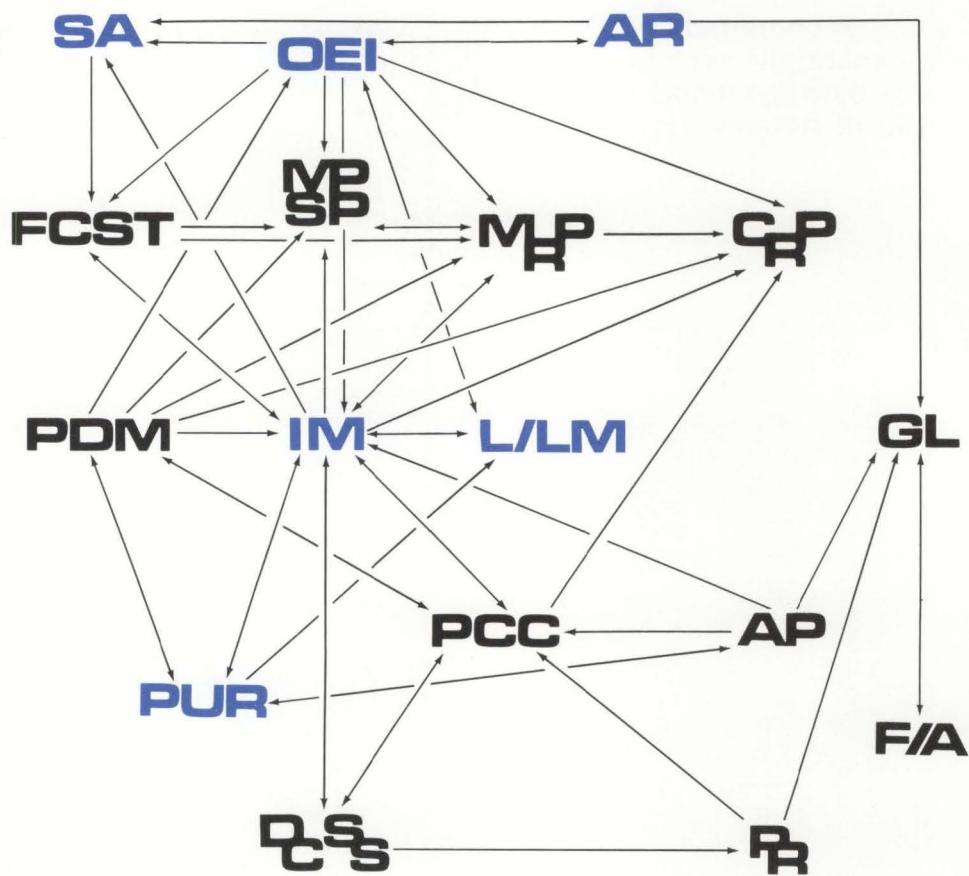
Built-in control features

The System/36 and its applications have many built-in features that help you control both the accuracy of the information stored in the System/36 and the access people have to it.

General controls

A program monitors the sequence of certain procedures used by the operator. This ensures that these procedures are executed in the proper order.

All transactions are edited for validity. The operator must correct errors before files can be updated.

Through a set of tailoring questions, you can specify the sizes of your master files (number of customers, number of items, and so on) and select application options (invoice format 1 or 2, printing picking list from data entry batches, and others). If a master file becomes nearly full (because you add new customers or new items), the application displays a message to notify you. You can then enlarge the master file by giving new answers to the appropriate file size questions. Further, you can change application options (change invoice formats, for example) by reanswering application questions.

Accounting controls and audit trails

The applications generate control totals for each batch of information and show them on the display. The operator can balance these totals to manually derived control totals.

As the batch of data is processed by the applications, the same control totals are derived at each step for balancing back to the original control totals. This function provides your audit trail.

System security

Because work stations increase the number of people who have access to your system, you may want to restrict access to your information. You can do this in the following ways:

- Order a keylock feature on your work stations. This feature allows you to lock a work station so that no one can use it without a key.
- Use the SSP-provided password security system, which restricts access to work stations.
- Use the password security system that is provided with the application. This system restricts access to certain procedures and functions within an application.

Save and restore procedures

To help protect your installation against accounting and system errors that can occur in even the most carefully managed operation, a set of programs and procedures is provided to assist you. These procedures, implemented at your option, include:

- Periodically saving your master files on diskettes (backup)
- Retaining all transactions on disk between saves of master files.

Should you encounter system problems, such as a power failure, a procedure analyzes the status of your system to determine whether you can safely restart any programs that were being run when the problem occurred. If restart cannot take place, the system tells the operator what steps to take.

Should you need to reprocess transactions, you can load the master files you saved on diskette and reprocess the transactions without rekeying them.

Order Entry and Invoicing (OE&I)

The order entry function is a key starting point for activity in a manufacturing organization. For make-to-order products, this function describes the item to be manufactured and when the item is required. For ship-from-inventory products, it streamlines the order processing so items can be shipped promptly. Depending on which related applications are installed, OE & I updates item balances maintained by Inventory Management, charges invoiced to customers can be used to update Accounts Receivable records, and records of sales can be used as the basis for the various Sales Analysis reports. The OE & I application greatly reduces clerical functions that would otherwise be required to process information for each of the other applications independently.

Order entry operates in an interactive mode and can accommodate multiple work station operators entering data concurrently. The work station operator can enter order information, verify it on the display, and make corrections and changes to the order before it is used for further processing. The OE & I application retrieves customer names, addresses and other predefined information; selects prices; applies discounts, markups, and taxes; calculates extensions; and prints invoices that reflect all customer charges. It also prints the invoice register that shows summary information for all invoices printed during a given period.

Order Entry and Invoicing directly associates each customer line item ordered with the appropriate item in the inventory master files, if Inventory Management is installed. This feature allows rapid access to current requirements information, such as all orders for an item, by using inquiries available in the Order Entry and Invoicing and Inventory Management applications.

Features

The Order Entry and Invoicing application offers:

- Interactive entry, edit and correction of customer orders
  - Standard order and item comments and standard special charges
  - Item availability review with options to allocate
  - Alpha lookup on customer name and item description
- Online file maintenance of master files and customer orders
- Blanket order support with up to 24 releases
- Entry time or invoice time pricing
- Multicompany support for up to 20 companies
- Credit limit checking (Accounts Receivable application required)
- Automatic creation of back orders
- Option to print an invoice immediately for a new order
- Picking list printing for open orders or immediately for a new order
- Bills of lading
- Work station printer support for picking lists, bills of lading, and invoices
- Standard options for end items (Product Data Management application required)
- Credit memo processing for returns and allowances
- Pricing structure including
  - Contract prices selected by contract and item number
  - Quantity-price break discounts
  - Operator-entered special or one-time prices
  - Pricing unit of measure conversion
  - Trade discounts based on customer
  - Discount or markup prices calculated for any item with percentages automatically selected or manually keyed as overrides.

Major reports

- **Order Acknowledgment** confirms a customer's order, giving details of items ordered.
- **Picking List** is used for picking orders, and can serve as a packing slip and shows the bill of lading packing code for each item.
- **Invoices** and **Credit Memos** show details of customer purchases or items returned.
- **Bills of Lading** show the basic customer shipping information on a preprinted form.
- **Invoice Register** is a summary listing of all invoices printed in a given period.
- **Taxing Body Reports** show in summary or detail form the taxable sales and taxes charged by taxing body.
- **Customer Order Shortage Report** shows all inventory items which have been overcommitted (Inventory Management application required).
- **Open Order Status Reports** show the backlog by customer, item or date. The same reports can be run for back orders.
- **Blanket Order Status Report** shows the current position of entered blanket orders.
- **Monthly Worksheets** show information related to commissions and general ledger reporting.

Inquiries

- All orders for a customer
- Customer status
- Detailed information for an order
- All customer orders for an item.

Inventory Management (IM)

The Inventory Management application is designed to assist in improving the control of inventory, which is a major asset of a manufacturer. The objectives of Inventory Management are to provide up-to-date information for improving your decision-making and reducing inventory, and to maintain tight operating and audit controls. These objectives will help you establish efficient allocation of inventory dollars while maintaining satisfactory customer service levels, thereby maximizing the return on inventory investment.

The Inventory Management application can be subdivided into three major areas. The first area provides the perpetual inventory functions which maintain inventory balances by processing related transactions (receipts, issues, adjustments, and so on). The second area provides management with the dollar values and analyses required for sound inventory decisions. The third area provides the ability to effectively release and track manufacturing and purchase orders (if Purchasing is not installed), allowing inventory managers to manage both on-hand and on-order positions of inventory items.

Operating personnel in the purchasing department, the stockroom, or at the receiving dock can enter receipts, issues, adjustments, and other transactions through the work station on an item-by-item basis. The system edits each transaction for validity (item number, warehouse) and, if the transaction passes all edits, the master file is updated. An inventory transaction register, printed periodically, shows the transactions processed.

Features

- Interactive entry, edit, and correction of inventory transactions, including:
  - Immediate update
  - Multiple transactions per display
  - Shortage checking for entered receipts
  - Ease-of-use capability for complex issue transactions (pick complete exceptions, for example)
- Immediate processing of transactions
- Online master file maintenance
- Exception flagging
- Cycle count and regular physical inventory
- Multiple warehouse support
- Perpetual inventory record keeping
- Item costing (average, last and standard)
- LIFO/FIFO valuations
- Order release for purchase and manufacturing orders
- Blanket order support for purchase orders
- Sets "replan" flag for use by Material Requirements Planning (if installed)
- Component backflushing upon production receipt
- Calculated average lead time
- Online component availability checking for manufacturing orders
- Passes Material Requirements Planning planned purchase orders to Purchasing (if installed).

Notes:

1. When the Purchasing application is installed, expanded capabilities are available in the areas of purchase order entry and receiving.
2. If your company is in a process-related business that produces a product in quantities other than one each and needs extended decimal precision capability, refer to *Introducing Process Applications*.

Major reports

- The **Stock Transaction Register** is a record of all transaction data accepted by the application.
- The **Stock Status Report** shows the condition of items in inventory at month end or year-end.
- The **Stock Status Review** is available on request and shows the status of all or selected items in inventory.
- **Inventory Analysis Reports** show the financial and stock movement aspects of items in inventory.
- The **Physical Inventory List** is printed in various sequences for all or selected groups of items to simplify periodic inventory counts. The same reports are used for cycle-count items.
- **LIFO/FIFO reports** show the value of on-hand inventory by using the individual receipt transactions.
- **Material Shortage Reports** show the material not available to meet released production order needs.

Inquiries

- Item master
- Item allocation
- Item balance history
- Open orders
- Item availability.

Location/Lot Management (L/LM)

The Location/Lot Management application provides for the stocking and control of items in multiple warehouses and multiple locations within a warehouse. The identification and tracking of batch/lots, the control of shelf life for materials and products, quality control tracking and recording, and history reporting are all features of L/LM that aid in warehouse inventory regulation. For instance, the L/LM application allows for the stocking of items in multiple locations within a warehouse. In this way, inventory can be more easily controlled, simplifying dock-to-stock transactions.

An important feature of L/LM is the ability to monitor quality control status items, regardless of their location in the warehouse. A bulk quality control area can also be maintained if required. The flexibility of warehouse design allows for efficient use of storage capability.

The management features offered by the L/LM application are significant in the maintenance of inventory for manufacturers and suppliers of all types of materials and products requiring multiple location stock control. Reports of empty locations can be obtained to aid in better management of storage space. The allocation function of L/LM allows the designation of items from a specific location within a warehouse or from a particular batch of material to be allotted for manufacturing, customer order processing, or similar purposes. Once Inventory Management has been installed, L/LM can interface to Inventory Management and Order Entry and Invoicing for updating with stock transactions, cycle counting by location, and picking lists by location and/or lot.

The Location/Lot Management application provides the following major functional capabilities:

- The ability to stock and control items in multiple locations within a warehouse
- Lot or batch identification and tracking to purchase and manufacturing orders, sales invoices, and from dock to stock
- Control of shelf life and first in/first out (FIFO) usage of material
- Quality control tracking and recording for manufactured and purchased items, and quality status of items subject to shelf life
- Tracking and audit of goods received notes against shipments and vendor invoices
- History of inventory transactions, with user selected reporting
- Ability to record transactions for non-inventory and service items
- Ability to maintain multiple items in a given stock location
- Ability to allocate a specific inventory stock item from a warehouse location or material lot
- Ability to trace a batch of raw material from receipt to finished goods to customer order, and vice versa.

These capabilities are of significant value to manufacturers of food, pharmaceuticals, and chemicals, as well as medical, nuclear, aerospace, and defense equipment. For these industries, government regulations (such as FDA) usually require product recallability through lot tracking.

Features

Major features of L/LM include the following:

- Flexibility to adapt the physical layout of individual warehouses to the location numbering system.
- Recording and control of stock by multiple locations within a warehouse.
- Batch/lot identification and tracking where necessary.
- History files to provide details by order, item, or specific lot number.
- Accommodation of up to 99 bulk storage areas.
- Reports of empty locations or bulk store areas, to help in better management of storage space.
- Quality control (QC) status monitoring, regardless of the location of a shipment. A specific QC area is available if required.
- Information on unapproved stock which is not available to stockroom personnel, preventing unauthorized use.
- Online audit trail of inventory transactions.
- Stock transfer transactions available for both interwarehouse and interlocation movements.
- Transaction history maintained online for selective analysis of inventory transactions.
- The goods received note (GRN) system provides a full audit trail of receipts entered against purchase orders and invoices.
- The interface to Inventory Management provides for:
  - updating with stock transactions
  - cycle counting by location
  - picking lists by location
  - allocation by location and/or lot.

Major reports
Physical/Cycle Count Report

The physical/cycle counting feature provides a physical inventory of stock items on a cyclic basis. The frequency of this report (such as weekly, monthly, or quarterly) is determined by your individual needs.

The physical/cycle counting application allows you to simplify the task of reconciling your inventory records with the quantities in the warehouse. With this report, you can quickly check for discrepancies between the report quantity and the actual warehouse count. It can also help in analyzing or determining the reason(s) for the discrepancies, so steps can be taken to avoid a recurrence.

Stock Status Report

The Stock Status Report lists detail or summary information of items normally held in stock at the warehouse(s) specified. All items are included in the report, and items not in stock are highlighted with the message **NONE IN STOCK**. The report prints information such as total stock, available stock, and the stock percentage total available. Quality control information, including the number waiting QC, the number with cyclic QC overdue, and the number that are QC rejected, will also print.

The report aids in determining the available stock for a warehouse and the status of that stock in regard to quality control. It is usually printed at month end when the month-to-date totals are reset, and may be distributed to warehouse staff for bay checks.

Transaction Analysis/Batch-Lot Review Report

Two types of reports are produced with this option, an Analysis report and a Review report. The Analysis report values each transaction using the old unit cost and the new unit costs. Because an item may have several different costs during the period, all transactions are valued as they take place, using the current cost default. The report lists each inventory transaction separately by item and prints both the old and new unit cost figures. In addition, the new total inventory value (closing value) is calculated by adjusting a supplied open balance with a net value of transactions. Two values are given based on the old and new costs, and a summary is provided. The Review report details all transactions or batch/lots within a specified date range. If an item is subject to recall, this report can be used to show every order where that item was used or where a particular batch of material was used.

Inventory Valuation Report

The Inventory Valuation Report lists the value of your inventory either by standard or current cost, including on-hand items and those waiting quality control. The report is selected by a single location or item type (such as assembled, purchased, or fabricated), but may be printed for all locations and item types.

Items Waiting Inspection Report

This feature of L/LM provides three reports that allow greater control over inventory items requiring quality control inspection. Each report targets a specific manufacturing concern and identifies it by location.

The first report provides an account of all manufactured items that are waiting QC inspection at a given warehouse. The second furnishes similar information for purchased items. The third report lists all cyclic items that are due or overdue for reinspection during their shelf life.

Goods Received Notes Report

Goods received notes (GRN) are similar to receipt tickets. These internal plant documents are used to audit the receipt of materials, track rejects, and provide an eventual matching to supplier invoices. L/LM offers two types of GRN reports to provide you with complete control over inventory movement. The first report traces GRNs for items that have completed quality control inspection, all outstanding GRNs by vendor, and all outstanding GRNs in the system. The second report lists those GRNs that have been matched to an invoice since the last time the report was selected or GRNs tagged with invoices for a given period.

Inquiries

L/LM allows you to inquire into the location status of items as stored in the master files. Five inquiry options are available.

Location Detail

This inquiry shows location information by item/warehouse. It includes the item quantity, batch/lot number, and FIFO date. The inquiry can be used to see all lots or only QC approved lots.

```
DATE **/**/**                    LOCATION/LOT MANAGEMENT         INQUIRY    AM5WA3
                            ALL LOTS APPROVED AND NOT APPROVED

         ITEM   200209                        WH  1         FIFO DATE
  LEFT LOCK                                                  ✧ NOT A QC ITEM ✧
  LOCATION       QUANTITY BATCH/LOT   DATE  LOCATION    QUANTITY BATCH/LOT    DATE

  A1AA2B           100               ******
  A1AA2C            62 ✧             ******
  B1EE4C           285 ✧             ******
  C1GG5A           132               ******
  D1JJ8A           300               ******




  TOTAL APPROVED                532              CK02 PAGE FORWARD
  TOTAL UNAPPROVED              347              CK03 PAGE BACKWARD
  ✧ NOT APPROVED                                 CK04 QC APPROVED LOTS
     ✧✧✧   END   ✧✧✧                             CK24 END OF JOB
```

Warehouse Summary

This inquiry will display quality control summary information for a given item in all warehouses. Information such as the quantity of the item that has been approved through quality control, the total quantity of the item that requires inspection but has not yet been approved, and the sum of all items that are either approved or not approved is displayed.

```
DATE **/**/**                    LOCATION/LOT MANAGEMENT      INQUIRY     AM5SB2
                                 WAREHOUSE SUMMARY BY ITEM

         ITEM  200209              LEFT LOCK                         U/M  EA
   WH       APPROVED      NOT APPROVED              WH      APPROVED      NOT APPROVED
   1             532                347
   2             250                 60




   TOTAL APPROVED                      782
   TOTAL NOT APPROVED                  407         CK24  END OF JOB
```

Item Detail

This inquiry shows item detail information by stock location. The main location is displayed, followed by any subdivisions for that location. The item number(s), location status (full/empty), quantity, batch/lot number(s), and QC type are all listed.

```
DATE **/**/**              LOCATION/LOT MANAGEMENT        INQUIRY    AM5WB2
                           ITEM DETAIL BY LOCATION

                    WHSE    AISLE   BAY   LEVEL   PALLET

                     1       B1     EE     4       C


    LOCATION        ITEM NUMBER              QUANTITY    BATCH/LOT    QC TY
    MAIN  B1EE4C    100145                        145    BL110        QC DUE
                   200209                        285                 WAITING
                   200223                        210    BL30         WAITING
                   200223                         84    BL40         WAITING




                                                        CK02 PAGE FORWARD
     **    END    **                                    CK24 END OF JOB
```

Transaction History

This inquiry shows history information from the Location History file by item number or order number. It includes transaction type(s) from a list of 23, FIFO date, stock location(s), quantity, and batch/lot number(s). You may also choose to access history that has been previously added and restored on diskette and to delete the work file after your inquiry.

Allocations

This inquiry allows you to inquire into the Allocation file to determine the allocations of an item, batch/lot, or an order. If you inquiring by item or batch/lot, you will see what has been allocated to customer and/or manufacturing orders and the quantity not allocated. If you are inquiring by order, you will see all items on an order which have had material allocated from a special location or batch/lot.

Accounts Receivable (AR)

A manufacturer normally has a significant investment in his receivables, and keeping an accurate account of this asset is essential. The company's cash flow, ability to react to business cycles, ability to extend credit and, ultimately, the profit picture are directly affected by the accuracy of receivables accounting.

To help you manage this important asset and keep tight controls on your customer accounts, the MAPICS Accounts Receivable application makes it possible for you to:

- Do automatic credit checking, if the OE & I application is installed
- Make timely and accurate application of payments to customer account information on the display
- Inquire into customer account records to obtain information for making credit decisions
- Prepare neat, accurate, and timely statements
- Improve collection of customer accounts and reduce losses from bad debts through automatic aging, aged trial balances, and delinquency notices
- Reduce clerical efforts and improve accuracy through the system's input-checking and accounting control features.

The Accounts Receivable application uses summaries of invoices created by Order Entry and Invoicing to apply charges automatically to customer accounts. Invoice summary information can also be entered directly through the Accounts Receivable application.

One or more work station operators can enter payments, adjustments, and miscellaneous cash receipts with immediate updating to reflect the most current accounts receivable balance. Invoice summaries can be entered from work stations, or the summaries can come from the Order Entry and Invoicing application.

The system supports both open-item and balance-forward customers. A code in each customer record shows which type of accounting is in effect for the customer. It can be changed at appropriate points in the accounting cycle to switch a customer account from one type to the other.

For balance-forward accounts, the operator can:

- Easily apply payments from the oldest to the most current aging period, or
- Apply cash directly to any period.

For open-item accounts, the operator can:

- Enter a payment or adjustment to be applied directly to an invoice, if the invoice number is known.
- Enter a payment or adjustment if the invoice number is not known, by
  - Entering the gross amount of the customer's payment. A display shows the outstanding invoices for that customer.
  - Selecting from this screen the items to be paid. After the items have been selected, the system displays the amount remaining to be applied to this account. The system creates a record for any unapplied cash that remains after the payment operation is over.
- For either open-item or balance-forward customers, the operator can:
  - Enter a payment for the entire amount due, and
  - Use the "write-off" facility to eliminate agreed-to discrepancies.

At the end of the month, the application prepares customer statements. The Aged Trial Balance and delinquency notices can be printed any time on request.

Features

- Online application of cash, adjustments, and miscellaneous cash receipts
- Interactive entry, edit, and correction of customer invoice summaries
- Balance-forward and open-item accounting
- Accounts Receivable aging including future aging
- Service charges for open item and balance-forward customers
- Credit limit checking
- Aged Trial Balance on request
- Multicompany support for up to 20 companies
- Month-end closing selectively by company.

Major reports

- **AR Transaction Register** is a record of all data accepted by the application.
- **Paid Item List** is a record of all items cleared by payments or adjustments in open-item accounts.
- **Aged Trial Balance reports** are available monthly or on request, in a variety of formats designed to meet specific management information requirements.
- **Delinquency notices** can be printed for all or selected customers with past-due accounts.
- **Statements** can be printed for all or selected customers.

Inquiry

- Customer.

Sales Analysis (SA)

The Sales Analysis application, when integrated with the other applications, provides sales, cost, profit amount and profit percent reporting for management analysis. Using summaries of sales transactions, and customer and item data, the sales analysis reports enable more effective management decisions toward higher profitability on goods sold and, at the same time, reduction of the cost of sales overhead.

The application is designed to furnish critical information on demand, including history data or current period only. This information can help you evaluate and track:

- Individual customer purchasing statistics
- Profit amount and percent reported by customer, item, item within item class, and by salesman
- Individual salesman's productivity
- Sales organization effectiveness, including salesman assignments and product line coverage
- New marketing strategies.

Features

- Accepts input from other Order Processing and Accounting applications
- 12-month or 13-period processing
- System tailoring report selections.

Major reports

Customer performance reports

- Profit Analysis by Customer Report shows profit for each customer or a selected group of customers.
- Sales Analysis by Customer Report shows sales for this period and year-to-date compared to last year's information.
- Sales Analysis by Customer Class Report is the same as the Sales Analysis by Customer Report except that the information is grouped by customer class.

Item performance

- Profit Analysis by Item Report, in sequence by item within item class, shows sales volume and profitability of all or selected items.
- Sales Analysis by Item Report shows quantity and sales amounts for the current period and last year with percentage differences.
- Profit Analysis by Item Class Report is the same as the Profit Analysis by Item Report except that statistics are grouped by item class.

Salesman performance

- Sales Analysis by Salesman Report shows sales volumes for the current period and year-to-date, compared to last year.
- Profit Analysis by Salesman Report shows sales, cost and gross profit for both the current period and year-to-date.

Inquiries

- Customer
- Item
- Salesman.

Purchasing (PUR)

The Purchasing application can greatly increase the productivity of personnel in the purchasing department and the dock-to-stock area of a company. This improved productivity and control result from the following benefits:

- Reduced clerical effort required to print purchase orders, purchase order revisions, debit memos, requests for quotes, and order close acknowledgments.

  With key information, such as vendor number, item number, due date, and quantity, the application retrieves additional information needed to complete the purchase order; for example, vendor name and address, terms and conditions, item descriptions, and standard messages.

- Reduced time between creating the purchase requisition and printing the purchase order.

  Purchasing eliminates paperwork transfers between the purchasing department and the data processing department. The application also controls priority purchase requisitions so that the most important purchase orders receive immediate attention.

- Improved communication with the vendor and dock-to-stock personnel eliminates costly mistakes.

  More complete communication with vendors is achieved by automatically printing standard messages and terms on a purchase order. You can flag special messages to vendors or to your own personnel.

- Improved control of purchasing activities.

  Purchasing controls all purchase order activities from the time the purchase requisition is created until the invoice is paid. Benefits of this improved control include preventing overpayments, highlighting early shipments, and evaluating vendor performance.

- Improved productivity in receiving. Purchasing handles dock-to-stock activities by:

  - Identifying receipts that have incomplete documentation.
  - Preparing a preprinted traveler to help identify each receipt as it moves from the loading dock to a stock location.
  - Allowing dock-to-stock personnel to correct transaction errors as they occur.
  - Listing detailed instructions on the purchase traveler. These instructions reduce or eliminate the problem of locating and maintaining separate documentation
  - Detecting bottlenecks.

Purchasing also helps your buyers find reliable vendors that have high quality materials at the best possible cost. This is accomplished by:

- Producing quotation requests
- Rating each purchase order on vendor performance, price, delivery, quality, and lead time.

Features

- Requisition entry and control
- Purchase order history reporting
- Purchase order revision printing
- Extensive dock-to-stock transaction editing
- Validation of vendor and freight invoices
- Debit memos
- Purchase order status reporting and inquiry
- Purchased item receiving routing
- Prioritized dock-to-stock work lists
- Quotation control system
- Vendor analysis
- On-demand cash requirements analysis.

Major reports

The **Open Requisition Analysis Report** shows backlogs and helps you determine purchasing overload and buying bottlenecks.

The **Dock-to-Stock Transaction Audit** shows all the transaction activity against a particular purchase order accepted by the system.

The **Purchase Order Status Report** is available on demand and can give you the current status of any purchase order in the system.

The **Prioritized Dock-to-Stock Work List** tracks the progress of purchase order receiving activities in your warehouse.

The **Buyer Worksheet Report** can be printed on demand. To simplify analysis, this report shows all the data on quotations and purchase order history for a specific item.

Inquiries

- Purchase order inquiry for individual or multiple releases
- All open purchase orders for an item
- Open purchase orders for a vendor
- Open quotes for an item
- Open quotes for a vendor
- Purchase order history (order summary or detail)
- Open purchase requisitions
- Vendor master file information.

Order Entry and Invoicing · **OEI**

Inventory Management · **IM**

Location/Lot Management · **L/LM**

Accounts Receivable · **AR**

Sales Analysis · **SA**

Purchasing · **PUR**
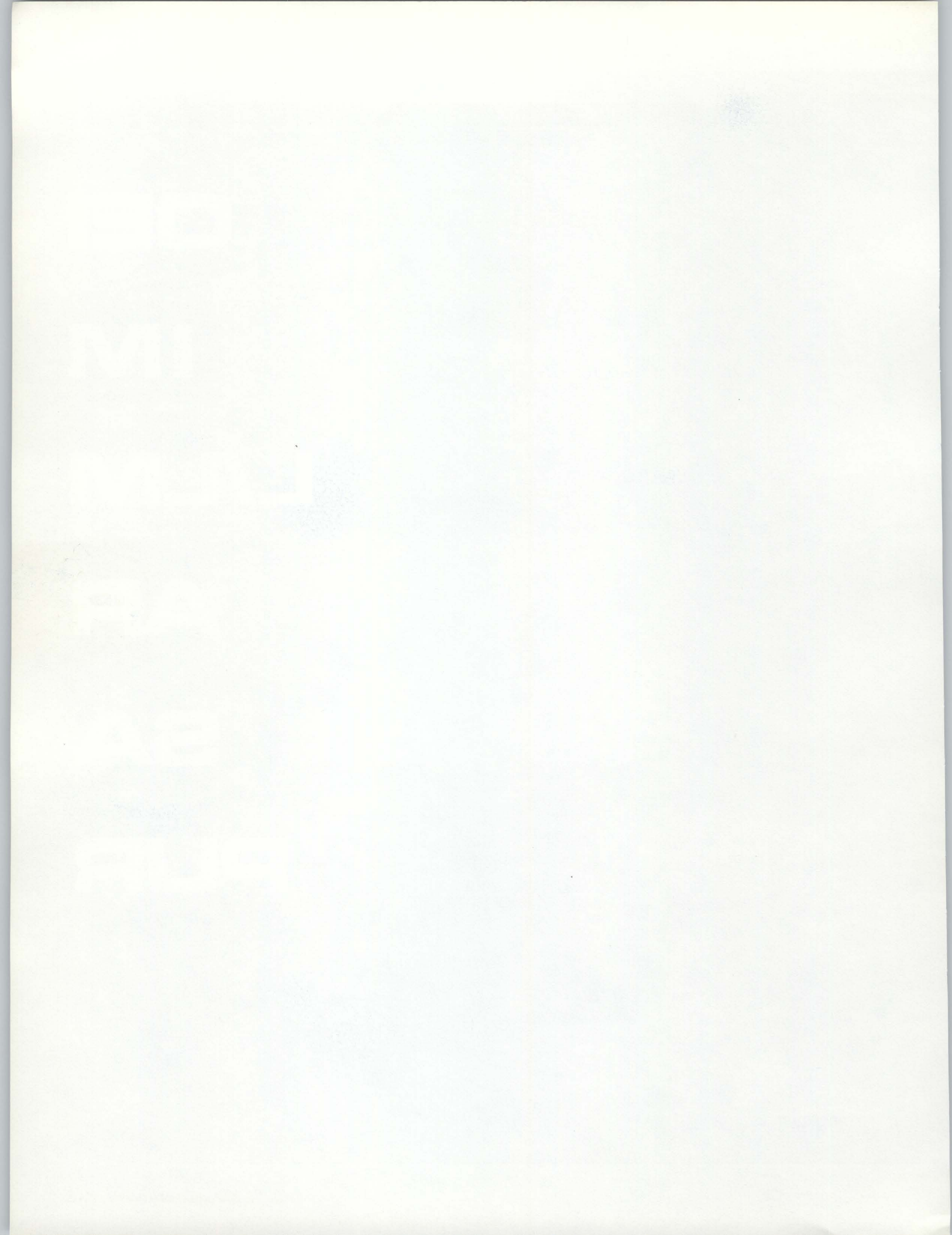
Section 2. Detailed information

Order Entry and Invoicing

Information flow

Figure 2-1 shows how information flows through the Order Entry and Invoicing (OE & I) application. The numbers in the following discussion refer to that figure.

Orders are entered **1**, picking lists (optional), bills of lading (optional), and invoices are printed either at work stations or at the system printer **2**. Order acknowledgments (optional), the invoice register, the invoices, the update register, and the inventory transaction register show the results of order processing and invoicing **3**.

On request, the customer open order report, customer order shortage report, item open order report, item price list, tax reports, general ledger worksheet, commission worksheet, and the blanket order status report can be printed **4**.

INQUIRIES

Orders and inquiries

1

Work station

OEI
ORDER ENTRY
AND INVOICING

System printer

System/36

2 Bills of lading

Picking lists

3 Inventory transaction register

Invoice register

Invoices

Order acknowledgments

Update register

Order entry and invoicing cycle

4 Customer order shortage report

Blanket order status

Commission worksheet

General ledger worksheet

Monthly tax reports

Items on open order

Item price list

Customer open order report

On request

Figure 2-1. Order Entry and Invoicing information flow

Application functions

Order Entry and Invoicing provides flexibility in processing orders and invoices. The normal method is to enter an order in interactive mode, add this order to the open order files, print picking lists and, when the order is shipped, release the order into the invoicing cycle. This method gives you control over open, unfilled orders and better control over the shop floor by giving notice of the backlog of orders. It also permits you to release picking lists based on manufacturing schedule dates, thereby eliminating manual control of paperwork in the picking department.

You can also process through direct billing, which means that operator-entered orders go directly into the invoicing cycle without being added to the open orders file. Using this method, your warehouse personnel can use a manually-created source document to fill a customer's order. Using that source document, with quantity shipped noted, the order department work station operator enters the information into the system using the immediate invoice entry and print procedure. The invoice is created, and the transaction data is used to update the appropriate master records (depending on which applications you have installed).

Backorder quantity calculated

OE & I automatically creates and manages backorders based on your predetermined codes in the customer and item records. If the customer and item records in a billing transaction are coded to allow backorders and the operator does not override them, the system calculates quantity backordered by subtracting quantity shipped from quantity ordered. It then prints this information on the invoice and creates backorder records for these items. The printing of backorder picking lists is under user selection.

Flexible pricing structure

The Order Entry and Invoicing application allows you to control your invoice prices by coding your customers and items, and by choosing from among several pricing methods. The application can select a price along with a discount or a markup percentage which may vary by customer for each line item.

You may also establish quantity discounts for selected items. For example, if a customer orders 50 to 100 of an item, the discount rate could be less than if 101 to 200 were ordered. You establish up to five quantity ranges and related discount percentages. The system automatically applies the discount accordingly. Furthermore, you can have contract or negotiated prices by items. The system uses this price as the unit net price. The operator can enter a price or cost amount which acts as an override to the net sales amount and is treated as the extended sales amount for that item. Alternatively, the operator can override a unit price, in which case all applicable discounts or markups are applied. Operator-entered override percentages are used instead of a system-selected discount or markup percentage.

You have the option to select order pricing at order entry time or invoicing time, depending on whether you want prices to be fixed at order entry time, or subject to change until they are shipped.

Figure 2-2 describes the item pricing hierarchy.
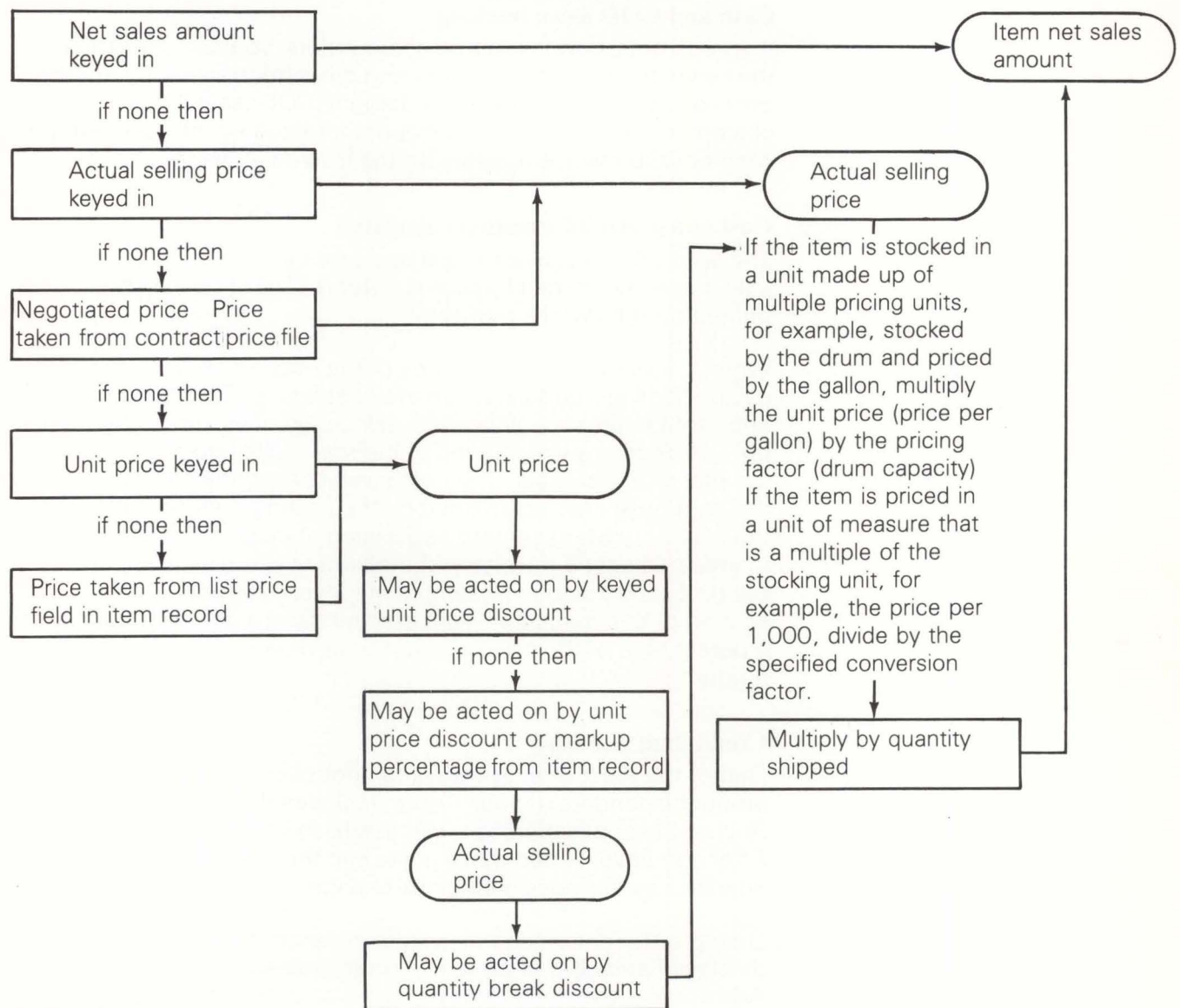
Figure 2-2. Item pricing hierarchy

After all item prices have been established, applicable trade discounts are calculated. Two basic methods are available: the first method uses one of five discounts, based on a code in the customer's record; the second method uses one of five available discounts based on order value.

Up to four taxes may be added to each invoice if both customer and item are subject to the same tax.

Cash and COD sales tracking

If you do not extend credit on some orders, you can still process the order and capture inventory and sales information by treating the order as a cash or cash-on-delivery (COD) sale. The customer's receivable account is not affected by the sale, but the cash or COD invoice appears on the invoice register.

Cost and profit information calculated

The application calculates cost and profit information for goods sold, based on costs stored in the items files. This information is printed on the invoice register.

When a sale involves extensions of the price of an item, the same calculations are performed on the cost figure. Even though cost and profit figures are accurately calculated, they should be treated only as close approximations of the real cost of goods sold and the real profit realized. The cost basis used in the calculations is the item base cost established by the costing method selected by the Inventory Management application, if installed, or a manually maintained cost if Inventory Management is not installed. (See the discussion of item costing in the Inventory Management section of this manual.) Profit percent can be computed either as a percentage of the sales amount or as a percentage of the cost amount.

Credit limit checking

One of the most effective ways to control credit is to limit the amount extended. If your system includes the Accounts Receivable application, you can establish limits for each customer. After you have loaded these limits into the system, they can be adjusted as business conditions change.

During order entry, the receivables balance, as last updated, is displayed and compared to the credit limit assigned the customer. Additionally, the number of outstanding orders for the customer is displayed. If the Accounts Receivable balance exceeds the assigned credit limit, the field is highlighted, indicating that the credit limit is exceeded.

Credit memo processing

The OE & I application accepts an entire order as a credit (treated as a negative invoice), or individual line items on invoices can be credited. The application automatically returns credit items to stock, increases the on-hand balance unless the operator defines the individual transaction as an "allowance." All sales amounts are updated to reflect either type of credit, but "allowance" credits will not increase the inventory quantity on hand, nor reduce accumulated costs.

Printing options

The OE & I application provides reporting flexibility through tailoring options. You can choose to have the picking lists, bills of lading, and/or acknowledgments printed from the entry batch.

Whether or not this batch option is selected, you still have the choice of printing picking lists within manufacturing schedule date limits. You can also individually select up to eight order numbers to print picking slips or bills of lading.

Additionally, you can print a Pick List for an individual order immediately at the time the order is entered. Invoices can be printed immediately for orders that are not placed on the Open Order file but rather are shipped at once.

End of period reporting

For end of period tax reporting, the tax body report has the following options:

- No report required
- Summary report required
- Detail report required
- Both summary and detail reports required.

The commission worksheet and the general ledger worksheet options are required or not required. Any of these options can be overridden during any period closing.

Order comments

Two types of comment records can be used. The order comment is made up of three 25-character fields. These order comments remain with the order until the order is completely invoiced or canceled. You can maintain both general and customer specific order comments and retrieve and include them during order entry.

The second type of comment is associated with individual items. These comments appear immediately after the item for which the comment is entered. These comments are also three 25-character fields in length and remain with the item until it is invoiced or canceled. Standard item comments that are used repetitively can be stored and retrieved at will.

During installation, you establish if the comments should be printed only on internal documents (picking lists) or external documents (acknowledgments, invoices). Once established, these defaults can be overridden as each comment is entered or included from the Comment file.

Standard options for end items

Many customers sell items having predefined product features which describe the end item more fully. These product features may be required (for example, voltage, color) or not required (for example, digital clock on a microwave oven). Each required product feature must have at least two standard options (voltage must be 115, 208, or 230) while nonrequired features can have one or more options.

When an end item with standard options is entered, the application prompts the operator for entry of a series of codes which identify the options. This data is then edited against the standard options available to the particular end item. If all edits are valid, the application selects the options specified and includes them with the order. Price and cost are accumulated from item master records, and discounts or markups are calculated based on the end item.

There are variations in the printing of standard option information on documents such as the picking list, acknowledgment, and invoice. These variations are:

Picking list—prints the option description but not the item number, packing codes, or quantity of the option and feature records.

Acknowledgments and invoices—prints the item number and option description but does not print quantity.

This function requires that the Product Data Management application also be installed.

Blanket order support

A blanket order is an order for one item with several shipping (release) dates. Using the OE & I application, an item can be entered for up to 24 individual release dates. Once the operator has entered the item and total scheduled quantity to be shipped, the application prompts the operator to enter the individual released quantities and dates.

There can be as few as one but not more than 24 releases per item. This single release function can be used for standing orders. Picking lists for blanket order items must be selected individually. The operator enters the order number and the release number for which the picking list is required. There can be only one item per blanket order.

Offline diskette entry

The Order Entry and Invoicing application is designed to operate in interactive mode. However, specific procedures allow you to enter data from diskettes recorded on a diskette entry system. This feature enables you to enter data created off-site or offline.

The transactions entered from diskette are processed independently of the interactive batches. The diskette data is transferred to the IBM System/36, and a batch edit is performed on the data. Error correction is handled by the offline diskette entry system. When all the data is error-free, the operator can release the batch for updating the open order files.

This diskette entry mode supports the functions described in this section with the following exceptions:

- No provision is made for entering blanket order items.
- No provision is made for entering standard option items.
- File maintenance must be performed at a work station.
- The immediate invoicing function must be done via the work station; the invoice release function must be processed on a work station.

Operations

All operations for the Order Entry and Invoicing application start with the OE & I Main Menu. This menu provides maximum flexibility in the selection of the operations to be performed. Because of the number of functions that can be performed by OE & I, second-level menus are used. For example, from the master menu, the operator selects order processing; a second-level menu appears and the operator can select the particular entry method required.

```
COMMAND                              MENU: AMBM00                              X6
                     O R D E R   E N T R Y   A N D   I N V O I C I N G
                                       MAIN MENU
                         1   ORDER PROCESSING
                         2   INQUIRY
                         3   REPORTS
                         4   MONTHLY CLOSE
                         5   FILE MAINTENANCE
                         6   FILE LISTINGS

                         7   RETURN TO APPLICATION SELECTION MENU




Ready for option number or command
```

The optional security code feature interacts with the menu and subsequent operations to ensure that only those individuals designated to have access to specific data and operations are permitted to continue processing.

Entering orders

The order entry cycle of the OE & I application takes orders that have been manually edited, and allows the operator to enter the order with system editing during each step. The operator selects the procedure from the menu that provides the order displays in sequence as needed for order entry.

```
COMMAND                          MENU: AMBM10                          X6
                    O R D E R   E N T R Y   A N D   I N V O I C I N G
                              ORDER PROCESSING
                         1   ORDER ENTRY
                         2   ORDER ENTRY-IMMEDIATE RELEASE
                         3   ORDER MAINTENANCE
                         4   ORDER RELEASE
                         5   DISKETTE ORDER ENTRY
                         6   BATCH UPDATE
                         7   PICK LISTS
                         8   ACKNOWLEDGMENTS
                         9   INVOICES
                        10   BILLS OF LADING
                        11   RETURN TO MAIN MENU


Ready for option number or command
```

This procedure guides the operator through the required steps. The system does not allow the operator to skip required displays, but does allow skipping optional ones. For example, your operator first enters customer and order header information. The system then prompts with the next display (order body or transaction), and the operator cannot proceed until at least one transaction is entered or the order is canceled.

To start the entry of an order, the operator enters the customer number and order number (unless system-assigned) on the Customer Order Data display.

Note: If this is a new customer, the operator can select another display to enter basic customer information that the system immediately includes in the customer file.

1 Assigned by application or manually controlled.

2 Assigned by application.

3 Allows operator to go directly to line item entry or enter additional order data or comments as needed.

```
CUSTOMER ORDER DATA              E BATCH 026 [2]              ENTER    AMBS11  W2

ORDER   ORDER   CO/CUSTOMER  SALES  W  SHIP-TO --- OVERRIDE --- --- PREVIOUS ---
NUMBER  TYPE    NUMBER       CODE   H  NUMBER  SOLD-TO  SHIP-TO ORDER   CUSTOMER
[1] 18  S    01 00145400            1                    Y         17     78100

ORDER      REQUEST    MFG      ----- CREDIT MEMO ------
DATE       DATE       DATE     CODE    REFERENCE NUMBER
1014**     1030**     1025**   A

--PURCHASE ORDER--                                        CONTRACT
NUMBER        DATE        SHIPPING INSTRUCTIONS           NUMBER
  GZ987440  1010**        COMMON CARRIER

ADDITIONAL ORDER DATA (Y/N) Y

ORDER COMMENTS          (Y/N) Y  [3]

BASIC ITEM ENTRY        (Y/N) Y

ENTER CUSTOMER SEARCH NAME

                                                 CK09 ORDER SUMMARY
                                                 CK24 DISPLAY STATUS
```

Optional order data screens

Two displays can be used to override such things as sold-to or ship-to address, terms, taxing information, salesman, and discount percent.

1 Total accounts receivable amount due if Accounts Receivable is installed.

```
CUSTOMER DATA OVERRIDE          E BATCH 026    ORDER    18    ENTER    AMBS12  W2

COMPANY 01  CUSTOMER 145400                              ORDER COMMENT (Y/N) Y

SOLD-TO  CHAMBLEE-TUCKER DIE CAST            CREDIT LIMIT AMOUNT DUE
  ADDR1  ALUMINUM ALLOY DIVISION               35,000.00    1  8,513.78
  ADDR2  1556 CLAIRMONT ROAD
  ADDR3  ATLANTA
         STATE  GA  ZIP  36687
SHIP-TO  CHAMBLEE-TUCKER DIE CAST  OVERRIDDEN   OUTSTANDING  CREDIT
  ADDR1  PLANT NO. 8               SHIP-TO #      ORDERS      CODE
  ADDR2  4521 BARTOW RD                             3          A
  ADDR3  VALDOSTA
         STATE  GA  ZIP  32585

------------ TERMS --------------     ------- TAX --------
PERCENT(3)          DESCRIPTION       CLASS  BODY  PERCENT
  1000          1 % 10 NET 30           1    FE    1.000
                                        2    GA    3.000
                                        3
                                        4
                                                   CK05 RESTART ORDER
```

1 Salesman assigned to this account. May be changed for this order.

2 Used for future aging of accounts receivable.

3 Used when the invoice is not to be printed. Instead, invoice data is saved in a file for unique user requirements.

```
ORDER DATA OVERRIDE             E BATCH 026    ORDER    18    ENTER    AMBS13  W2

COMPANY 01 CUSTOMER 145400   CHAMBLEE-TUCKER DIE CAST    ORDER COMMENT (Y/N) N

------------ TERMS --------------    ------- TAX --------     CREDIT LIMIT
PERCENT(3)          DESCRIPTION      CLASS  BODY  PERCENT        35,000.00
  1000          1 % 10 NET 30          1    FE    1.000
                                       2    GA    3.000        AMOUNT DUE
                                       3                         8,513.78
                                       4

SALESMAN NUMBER    105     --------- INVOICE ---------     UNIT PRICE
ALBERT H. THOMPSON            --- DISCOUNT ---             DISCOUNT
  1               NUMBER    CODE  PERCENT(3)               PERCENT(3)


            A/R MONTHS  DEFERRED   BILL-TO    OUTSTANDING  CREDIT
PRIORITY    BEFORE DUE  INVOICE    NUMBER       ORDERS     CODE
              2            3                      3          A

                                                   CK05 RESTART ORDER
```

There are two methods of entering item information. The first method allows an operator to enter minimal information regarding the item ordered. Item number and quantity are required entries. The application verifies the item number and displays the description and price for the item entered. The operator can enter up to ten lines in this fashion before adding the information to the order set.

```
BASIC ITEM ENTRY                E BATCH  026    ORDER    18    ENTER      AMBSA1  W2

COMPANY 01  CUSTOMER 145400    CHAMBLEE-TUCKER DIE CAST
LINE             A W                                   QUANTITY    UNIT    - U/M -
NO.  ITEM NUMBER L H            DESCRIPTION            ORDERED     PRICE  PRI STK
01   03010       Y 1 PLATE                                  10     11500 EA   EA
02   03011       Y 1 COLLAR                                 10      5000 EA   EA
03   03012       Y 1 SPRING                                 20      3180 DZ   EA
04   26006-20    Y 1 TANK 8 BY 12 INCHES                    10     14500 EA   EA
05   37855H      Y 1 7/8 x 16 UNF HEX BOLT                  38     12820 EA   EA




                         QUANTITY
LINE   ITEM NUMBER       ORDERED    UNIT PRICE(3)   ALLOC   WH
06     27005-A              10                        Y     1


                                                 CK19 UPDATE ITEMS
```

The second method allows the operator to enter information regarding the item and additionally, override information regarding this item for this specific order (for example, selling price, tax codes). The system responds with the information from the master file (description, etc.), summary availability information, and the pricing for this item. When the information is verified, the operator can enter a comment to be associated with the item or continue with the next item on the order.

1 Credit

- N = normal sale
- R = return item (will increase inventory quantity on hand during invoicing)
- A = allowance—credit item not returned to stock

2 Application calculates extended item amount based on pricing scheme or on overrides entered on this display.

```
DETAIL ITEM ENTRY              E  BATCH 026    ORDER    18  ACCEPT     AMBS32  W2

CO/CUSTOMER 01 145400      PREVIOUS ITEM 26006-20
                  QUANTITY                BACK    ALLOC -------- QUANTITY ----------
ITEM NUMBER        ORDERED  SHIPPED  ORDERED  Y/N  AVAIL ON-HAND ON-ORDER  ALLOC
03370                  3                        Y     31    60      84      113

UNIT        ------ PRICING ------          QUANTITY     SELLING    NET SALES
PRICE(3)   CODE   FACTOR    U/M    PCT(3)  DISC PCT     PRICE(3)   AMOUNT(2)
  14950     0       0       EA     5000                  15697    2  4709

            TAX CODES  WAREHOUSE     NON-      --------- UNIT ------
CREDIT      1 2 3 4    CDE   LOC   INVENTORY  WEIGHT(3)    COST(4)
1  N        Y N N N     1   BX-20     N         5000       99500
                                                    STK
DESCRIPTION                         TYPE      CLASS  U/M   CONTRACT PRICE
MOTOR                                 4         70   EA

                                                      CK14 BYPASS ITEM
```

As each order is entered, the operator has the option to process the order immediately into the Open Order files (allows immediate printing of the picking list) or to hold the order for processing during a batch update run at a later time.

At the end of a batch of orders, the operator can release the batch for updating into the order files or hold the orders for processing at a later time.

If Location/Lot Management is installed, once an order is entered, the L/LM allocation system can be used to allocate customer-specified item lots to the order. The pick list will then show what lot to pick and where it is located.

Searching item and customer files

During order entry, an operator can search the Item file by typing in a partial item description in place of an item number.

```
DETAIL ITEM ENTRY              E BATCH 026   ORDER      18  ENTER      AMBS31  W2
                               BLANKET ORDER ITEM
CO/CUSTOMER              PREVIOUS ITEM 03025              AVAILABILITY INQ(Y/N) A
                 QUANTITY              BACK   ALLOC -------- QUANTITY ----------
ITEM NUMBER      ORDERED  SHIPPED  ORDERED  Y/N  AVAIL ON-HAND ON-ORDER  ALLOC


UNIT       ------ PRICING ------            QUANTITY     SELLING     NET SALES
PRICE(3)    CODE  FACTOR     U/M    PCT(3)  DISC PCT     PRICE(3)    AMOUNT(2)


           TAX CODES  WAREHOUSE     NON-    --------- UNIT -------
CREDIT     1 2 3 4    CDE  LOC    INVENTORY WEIGHT(3)     COST(4)

                                                     STK
DESCRIPTION                        TYPE      CLASS   U/M  CONTRACT PRICE

ENTER ITEM SEARCH DESCRIPTION 3/8 HEX

                                               CK06 ORDER COMMENT
                                               CK09 BASIC ITEM
                                               CK10 SPECIAL CHARGE
                                               CK24 DISPLAY STATUS
```

The Item Search display (AMBS02) appears, showing all item records that match the description. The items can then be selectively included in the order by entering the reference number of the item.

```
ITEM SEARCH SUMMARY              E BATCH 026    ORDER      18  ENTER   AMBS02  W2

REF                                               UNIT  - U/M -   ITEM
NO.   ITEM NUMBER    DESRCIPTION                   PRICE PRI STK  CLASS
01    369514         3/8 x 16 x 1 INCH HEX BOLT CAD 17842  C  **    04
02    459336         3/8 x 24 x 2 UNF HEX BOLT ZINC 25030  C  **    18
03    863255         3/8 x 16 x 2 HEX HED CAPSCREW   1282  C  **    22
04    925411         3/8 x 16 HEX NUT LOCKING       32000  C  **    80




.. END

ENTER REFERENCE NUMBER  3

ENTER ITEM SEARCH DESCRIPTION 3/8 HEX

                                               CK01 END SEARCH
                                               CK02 PAGE FORWARD
```

The operator can also search the customer file by typing in a partial customer name.

Retrieving and entering standard comments

The application allows you to maintain commonly used order comments, item comments, and special charge records in a file. These can be used in order entry. For example, when the operator chooses to enter item comment information for an item being entered on an order, any comments on file for the item are displayed. In this way, required item-related text can be quickly reviewed and included in the order. Similar support is provided for order comments; that is, text that applies to the order as a whole.

1 Comments

- ■ Y = comments will print on internal documents only (picking list and reports).
- ■ N = this comment prints on internal **and** external documents (acknowledgment and invoice).

2 The user-assigned reference number can be entered to include this comment in the order.

3 Comments can be entered manually.

4 Comments that apply to many items can be accessed by using **CK09**.

```
CUSTOMER ITEM COMMENT          E BATCH 026    ORDER      18  ******   AMBS22  W7

010  CUSTOMER ITEM NUMBER       INT   040  STENCIL SHIPPING CARTON    INT
     115879-HI. CONFORMS TO     PRT        WITH "USE NO HOOKS",       PRT  1
     GHQ SPECIFICATION 147PW88  N          "THIS SIDE UP"             Y

020  ALL SHIPPING CARTONS TO    INT   050  MARK SHIPPING CARTON W/    INT
     BE CLEARLY MARKED WITH     PRT        HAZARDOUS MATERIAL WARN-   PRT
     CUSTOMER'S ITEM NUMBER     Y          INT H-487 8" HIGH LETTERS  Y

030  PACK WITH STYROFOAM PAD-   INT   060  INCLUDE INITIAL QC SAMPLE  INT
     DING. STENCIL AS FRAGILE-  PRT        AND QUALITY REPORT.        PRT
     HANDLE WITH CARE.          Y          CERTIFICATION REQUIRED     N
ENTER REFERENCE NUMBER  2           ...  MORE COMMENTS

COMMENT 1                                  ITEM NUMBER 033796
COMMENT 2  3                               INTERNAL PRINT
COMMENT 3                                  ONLY  A
                                               CK04  GENERAL COMMENTS
                                               CK05  RESTART TEXT     4
                                               CK07  ITEM ENTRY
                                               CK09  PAGE TEXT
                                               CK10  SPECIAL CHARGE
                                               CK24  DISPLAY STATUS
```

Updating master files

When a batch of orders is released, the system updates the master files, prints an update register and, depending on options you chose, prints picking lists, acknowledgments, and bills of lading.

The update register is printed after a batch (or batches) of orders update the master files. This activity register shows new orders, changed orders, and those orders released for invoicing.

The report sequence for the Update Register shown here is batch type within order number.

ORDER NUMBER	BATCH TYPE	BATCH NUMBER	ORDER TYPE	CUST/CO NUMBER	WS ID	ITEM COUNT	SPEC CHG COUNT	PRICE OVERRIDE	BACKORDERS	TYPE OF HDR CMT	MAINTENANCE ITEM SPEC CHG	PICK SLIPS PRINTED
C003050	E	030	S	1135000-01	F1	1	4	---	---	--- ---	--- ---	---
C003051	I	031	S	1444000-01	F1	3		---	YES	--- ---	--- ---	---
C007830	M	032	S	2(315000-01	F1			---	---	--- ---	YES ---	YES
C004010	R	033	S	8552000-01	F1	5		---	---	--- ---	--- ---	YES
C004050	R	033	S	11025000-01	F1			---	---	--- ---	--- ---	YES

UPDATE REGISTER   DATE 8/08/**   14.08.51   PAGE   1   AM9EF

TOTALS	BATCH	ITEM	SPEC CHG
NUMBER OF "E" BATCH TYPES -	1	1	4
NUMBER OF "I" BATCH TYPES -	1	3	
NUMBER OF "M" BATCH TYPES -	1		
NUMBER OF "R" BATCH TYPES -	1	5	

1 Order type

- B = blanket order
- S = standard item release
- I = individual item release

2 Work station that performed the operation

3 Were backorders created?

4 What type of maintenance was performed?

5 Totals

- E = entered orders
- I = orders entered for immediate invoicing
- M = maintained orders
- R = orders released for invoicing

6 Number of items in order

7 Number of special charges entered

8 Were standard prices overridden?

Acknowledging orders

The acknowledgment serves as confirmation that your customer's order has been received and is being processed. The acknowledgment is similar in format to the invoice.

Printing picking lists

The picking document can serve several purposes:

- To direct the warehouse personnel in filling an order
- To serve as a packing slip
- To aid in final bill of lading preparation by identifying the bill of lading packing code for each line item.

If you have a work station printer in a warehouse, these lists can be printed on stock paper at that location. If you have several warehouses, each can have a work station printer. As picking lists are selected, the operator can direct them to the appropriate printer based on the warehouse number included on the order. Work station printers can be positioned up to 5000 feet from the processing unit.

The system offers three methods of printing picking lists: at the time the order is entered, as a batch of orders is added to the master files, or selected from the orders file at a later time. Picking lists printed from the batch are sorted so that items on an order are in warehouse location sequence. Inventory requirements are posted to the inventory file (if Inventory Management is installed) at the time picking lists are printed, unless previously allocated at entry time.

1 The picking list shows if the customer will not accept partial shipments or backorders.

2 The pack code is used with the bill of lading.


```
BATCH NO. 027          PICKING LIST           DATE  6/08/**  PAGE    2

SHIP-TO ADDRESS         ORIGINAL

R.S. AUSTIN CO          CUSTOMER  3655000  SCHEDULE DATE 12/08/**
BOX 409                 COMPANY   1        REQUEST DATE  12/19/**
ALBANY
ATLANTA                 GA  30780
1 *** ACCEPTS BACKORDER        ORDER NO. REFERENCE  ORDER DATE  ORDER TYPE
  *** ACCEPTS PARTIAL SHIP     COC3123                6/20/**        S

SHIP INSTRUCTIONS -

ORDER COMMENTS  ATT.-DEAN GRAHAM


PACK                ITEM        QUANTITY          QUANTITY
CODE   LOCATION     NUMBER      ORDERED   U/M     SHIPPED   U/M

01      1  A099  99001              10    EA
SPRAY UNIT                                    -------   --
WHEEL 12 IN DIA              OPTION
TANK 12 BY 24 INCHES         OPTION
AUTO SWITCH                  OPTION

01      1  A099  99001               3    EA
SPRAY UNIT                                    -------   --
WHEEL 12 IN DIA              OPTION
TANK 12 BY 24 INCHES         OPTION

2 00    1  P104  0301                4    EA
PLATE                                        -------   --
        PACK FOR EXPORT
        USE CARTON 7.6X
```

Printing bills of lading

This document, like the picking list, can be printed as a batch of orders is added to the master files or selected individually from the orders file. The system prints the basic heading information on a preprinted bill of lading form for use by the shipping department. As with the picking lists, bills of lading can be directed to the work station printer.

Printing customer order shortage report

If you have both Order Entry and Invoicing and Inventory Management installed, you can elect to print the Customer Order Shortage Report at any time. This report shows all inventory items that have current customer requirements (picking list has been printed or allocation specified when the item was entered on the order) and are in a negative available position (on hand minus manufacturing and customer requirements equals available). This report reflects immediate overcommitments of inventory so that action can be taken before disruption of either manufacturing or shipping occurs.

```
                                   CUSTOMER ORDER SHORTAGE REPORT     DATE  8/08/**  TIME 16.08.05  PAGE    1  AMBMB

                                        ---ON ORDER STATUS---        ------ALLOCATED TO-----
   ITEM NUMBER    WHSE   ITEM DESCRIPTION   U/M PURCH         MFG   ON-HAND   MFG ORDERS  CUST ORDERS   AVAILABLE

   03424            1   TREADLE ASSEMBLY      EA    100         0    133          0          150         17-
   26006-20         1   TANK 8 BY 12 INCHES   EA      0        40    365        240          175         50-
   26006-21         1   TANK 10 BY 18 INCHES  EA      0       200    165          0          500        315-
   26006-22         1   TANK 12 BY 24 INCHES  EA      0       100    183        150           75         42-
   27005-A          1   PUMPING UNIT          EA      0        10     10          0           80         61-
```

Invoicing cycle

The second major processing cycle is the invoicing cycle. This cycle uses the picking list as a source document to reflect partial shipments, shipping information, and quantity changes, so that the invoice reflects the actual shipment.

The invoicing cycle is started by a menu selection. The operator enters an order number to be invoiced, and the system selects the customer and item information associated with this order. When the ordered items are displayed to the operator for verification, changes to pricing information and quantity shipped information can be made.

Note that two basic order types are used to simplify posting of the quantity shipped. The order types are assigned at order entry time. The types and their effect on this quantity are:

- A standard (S) order assumes that quantity shipped equals quantity ordered unless overridden by the operator.
- An individual (I) release order assumes that quantity shipped of an item is zero unless otherwise entered by the operator.

The operator can enter the quantity information as required, and verify that it has been entered correctly. The item selection display is used during the invoicing cycle.

Once the batch is completed, the operator can begin the actual invoicing procedure or leave the batch for later invoicing.

When the batch is released for invoicing, the application calculates item extensions and updates the master files to reflect the shipments. The invoice, invoice register, and inventory transaction register are printed as part of this cycle.

1 Used for blanket orders only.

2 Operator enters only quantities for the items requiring a change.

3 Operator enters a Y to override price, discounts, taxes, etc.

```
CUSTOMER ITEM SELECTION          R BATCH 026   ORDER    41  REVIEW   AMB031  W1

LINE                    --------- QUANTITY ----------    CR   RELEASE  PARTIAL/
NO.  ITEM NUMBER        ORDERED   SHIPPED   BACKORDER   CODE  NUMBER 1 COMPLETE
 1   03011                300       300
 2   03010                200       200
 3   03012                 50        50


        -- END OF DETAIL --
LINE  ----- QUANTITY -----   DETAIL   PARTIAL/
NO.   SHIPPED  BACKORDERED   SCREEN   COMPLETE
 1      250  2     50        N  3




                                      CK02 PAGE FORWARD
                                      CK10 SPECIAL CHARGE
                                      CK22 END ORDER
```

Printing invoice register

The invoice register summarizes invoices printed during this cycle. It identifies each by invoice number, order number, and customer. This document is in the same format as the invoice register shown in the Accounts Receivable discussion in this section.

An example of an invoice is shown here.

							INVOICE	PAGE
							1049	1
							DATE	
							8/10/**	

SOLD TO
SHARPE STEEL
COMPANY
BOX 946
NEW YORK CITY   NY   31709

SHIP TO
SHARPE STEEL
COMPANY
BOX 946
NEW YORK CITY   NY   31709

CUST. NO.	SHIP VIA		ORDER NO.	SLS. NO.	REFERENCE NO.	TERMS	
1-19098000	BEST WAY		C000860	31709	106331	2% NET 10 DAYS	

ITEM NUMBER	DESCRIPTION	U/M	QUANTITY SHIPPED	QUANTITY BACK ORDERED	UNIT PRICE	AMOUNT
26006-20	TANK 8 BY 12 INCHES	EA	2		14.935	29.87
27003-20	PUMP ASSEMBLY	EA	2		50.470	100.94

TOTAL WEIGHT	NET SALES AMOUNT	TRADE DISCOUNT	MISCELLANEOUS CHGS.	TAXES	TERMS DISCOUNT	AMOUNT DUE
36.00	130.81	2.62		1.17	2.56	129.36

Printing inventory transaction register

The inventory transaction register shows the individual items shipped, and is used as an inventory audit trail. The format of this document is the same as that shown in the Inventory Management application transaction processing cycle in this manual.

Printing open order status reports

If you need a printed status of your open orders, you can select to run one of the order status reports. These reports can be run in the following ways:

- By customer—shows all outstanding orders for each customer or a range of customer numbers. The report details the items on order and totals the number of open orders for each customer (see example).
- By item—shows the current backlog of orders for each item with customer orders. The report details the customers who have requirements outstanding for each item.
- By date—shows open customer orders in due date sequence. This report also details individual items on the orders.

Note: Each of these reports can print all outstanding orders or only those currently in a backorder position.

Cost value can be standard, average, or last if Inventory Management is installed

Printing the item price list

This report is a listing of item prices, showing the base price and quantity break ranges/percentages for each item. A table of discount/markup percentages with entries for each item is included. The price list can be used when preparing catalogs and as a source for coding orders. All item numbers, or a range of item numbers, can be listed with their list prices and the following information:

- Item number
- Item description
- Unit of measure
- Discount/markup percents
- Pricing unit of measure conversion information.

```
                                        ITEM PRICE LIST                    DATE  4/09/**  TIME 15.26.39  PAGE   1  AMV55
   ITEM NUMBER     DESCRIPTION
   ---PRICE---     STK PRI              BASE
   FACT CD DIV     U/M U/M CLASS  TYPE  PRICE              1          2          3          4          5          6

   02892           LOCK CLIP                 DISCOUNT %  10.000     20.000     30.000     40.000     40.000     40.000
                   EA  EA  80      4   12.820  PRICE     11.538     10.256      8.974      7.692      7.692      7.692

   03010           PLATE                     MARKUP %
                   EA  EA  70      4    8.975  PRICE      8.975      8.975      8.975      8.975      8.975      8.975

   03011           THROW-OFF COLLAR          MARKUP %
                   EA  EA  70      4    5.660  PRICE      5.660      5.660      5.660      5.660      5.660      5.660

   03012           SPRING                    DISCOUNT %   5.000      6.000      7.000      7.000      7.000      7.000
                   EA  EA  84      4    6.500  PRICE      6.175      6.110      6.045      6.045      6.045      6.045

   03021           VALVE                     MARKUP %
                   EA  EA  80      4    5.680  PRICE      5.680      5.680      5.680      5.680      5.680      5.680

   03023           DISCHARGE FERRULE         MARKUP %
                   EA  EA  80      4    6.870  PRICE      6.870      6.870      6.870      6.870      6.870      6.870

   03024           SHELL                     MARKUP %
                   EA  EA  50      2   80.000  PRICE     80.000     80.000     80.000     80.000     80.000     80.000

   03025           PUMP HOUSING ASSEMBLY     MARKUP %
                   EA  EA  20      1   68.700  PRICE     68.700     68.700     68.700     68.700     68.700     68.700

   03370           MOTOR                     MARKUP %    7.000      6.000      5.000      4.000      3.000      2.000
                   EA  EA  70      4   14.950  PRICE     15.997     15.847     15.698     15.548     15.399     15.249

   03385           WRENCH                    MARKUP %    7.000      6.000      5.000      4.000      3.000      2.000
                   EA  EA  80      4     .690  PRICE       .738       .731       .725       .718       .711       .704
```

Printing taxing body reports

These reports summarize all tax information (federal, state, local) that may be required by a taxing authority. They are normally printed at month end, but can be run at any time before period end. A report can be prepared two ways:

- Summary—prints one line per taxing body showing total sales, total taxable sales, and total tax charged.
- Detail—shows the same total data as the summary report, but also lists each customer and invoice number and amounts that made up the taxing body totals.

The application supports multiple taxing bodies and rates, and each order can have up to four taxes. The invoicing cycle calculates the taxes for each order based on the codes used.

Printing blanket order status report

You can print the status of all blanket orders or only a specific range of order numbers. The report is printed in order number sequence. It is normally used to release blanket order releases for shipment, as well as to review all blanket order items.

Note: If NO appears in the Release Pick List field, the picking list has been printed, but the order was not shipped.

```
                              BLANKET ORDER STATUS REPORT              DATE 11/21/**     15.02.47  PAGE   1  AMBSC

   ORDER            NAME/              ITEM DESCRIPTION/   TOTAL              LAST     LAST
   NO.   CO-CUSTOMER ITEM NUMBER  RELEASE  RELEASE  QUANTITY  QUANTITY COMPLETE  INVOICE  INVOICE   TOTAL          RELEASE
                                  NUMBER   DATE     ORDERED   SHIPPED           NUMBER   DATE      SHIP VALUE     PICK LIST

   C000039 01-01135000 APPOLLO SUPPLY CO.

              26006-22          TANK 12 BY 24 INCHES

                          01    10/15/**       10        10     YES    1497   10/15/**     423.47         NO
                          02    11/15/**       10        10     YES    1623   11/16/**     423.47         NO
   C000040 01-01670000 R.S. AUSTIN CORP.

              03021            VALVE

                          01    10/07/**      100         0     NO                           .00         YES
                          02    10/14/**      100         0     NO                           .00         NO
                          03    11/10/**      500         0     NO                           .00         NO
                          04    11/17/**      500         0     NO                           .00         NO
                          05    11/24/**    1,500         0     NO                           .00         NO
                          06    12/02/**    1,300         0     NO                           .00         NO
                          ORDERS
       *** FINAL TOTAL ***     2
```

Indicates if a picking list has been printed, but order not shipped

Printing commission worksheet

This report is printed in item number within customer within salesman sequence. It is a detailed report showing all item sales activity for the month. The report shows sales, cost, and profit information for each sale. It can include all or a range of salesmen numbers.

Printing general ledger worksheet

This report is designed as an aid to preparing the sales entry to general ledger. It is a working document that details sales by item number within company. In addition to sales and cost information, returns and allowances are shown.

Inquiries

The Order Entry and Invoicing application has an inquiry capability which permits you to determine the status of any item or customer on file—even while running another procedure at a work station.

When an inquiry request interrupts a procedure in progress, the application saves the current status, processes the inquiry request, restores the procedure, and causes it to resume processing from the point of interruption.

Customer requirements by item

This inquiry displays all the current orders for a particular customer. It shows each open order for the customer.

```
                         CUSTOMER ORDERS INQUIRY                    AMBO21   W2
     CUSTOMER 1135000    COMPANY  1
        NAME APPOLLO SUPPLY CO.              SALESMAN 31701
                                                             ORDER  PICK
     ORDER    CUSTOMER P.O.  ORDER DATE  REQUEST DATE  SCHEDULE DATE  TYPE   LIST
     C000022                 09/11/**    09/11/**      09/11/**      S      NO
     C000021                 09/11/**    09/11/**      09/11/**      S      NO
     C000020                 09/11/**    09/11/**      09/11/**      I      NO




            --- END OF ORDERS ---



                                                       CK24 END OF JOB
```

Customer status

This inquiry displays basic information regarding a customer.
Accounts receivable balance information is included if the
Accounts Receivable application is installed.

1 Status

- A = active
- D = deleted
- S = suspended
  (accept no more
  orders from this
  customer)

2 Balance-forward/open-item
code

- O = open item
- B = balance forward

3 Statement code

- Y = customer gets
  statements
- N = no statement

4 Service charge percent
if customer is to be
assessed service
charges.

```
                           CUSTOMER STATUS INQUIRY      1              AMB011  W4
        CUSTOMER  1135000  COMPANY  1          STATUS    A      CLASS  10
              NAME APPOLLO SUPPLY CO.          SALESMAN 31701 TERRITORY  11
              ADDR ATLANTA                     BALANCE FORWARD/OPEN ITEM CODE O   2
                                        3      STATEMENT CODE    N
                                               DATE LAST PAYMENT 07/15/**
              STATE GA      ZIP 30301          SERVICE CHARGE CODE O PERCENT    .015
        PHONE 404-123-7654                                                        4

        MEMO DUE                    30 DAY   2,311.25     TOTAL DUE      3,176.18
        CURR CHG        600.00      60 DAY               CREDIT LIMIT    6,000.00
        CURR PMT      1,200.00      90 DAY    264.93
        CURR ADJ                   120 DAY               CREDIT CODE
        CURR AMT        600.00

        BACKORDERS    YES                      TAX  TAX
        PARTIAL SHIP NO                        CLASS BODY
        UNIT PRICE DISC. CODE                   1.   FE
        INVOICE DISCOUNT CODE    2              2    GA
        NO. OF OPEN ORDERS                      3    CT
        TERMS CODE    2                         4


                                               CK24 END OF JOB
```

Customer orders by item

This inquiry displays all outstanding customer orders for any inventory item.

1 Customer-requested shipping date

2 Date that item is expected to be available in Inventory (manufacturing schedule date)

```
                         CUSTOMER REQUIREMENTS BY ITEM              AMB041  W2
    ITEM NUMBER 03011               WAREHOUSE 1
    DESCRIPTION COLLAR                                   CLASS 71
                    ON HAND    ON ORDER    ALLOC-MFG    ALLOC-PICK
                                                     1            2

                                     ORDER    REQUEST   SCHEDULE  REL# /  ORDER  ALLO-
    CUSTOMER   ORDER     QUANTITY     DATE      DATE      DATE     CREDIT  TYPE   CATED
    12340000 C000045          30    09/11/**  11/25/**  11/25/**           S     NO
     1483000 C000044          75    09/11/**  12/06/**  12/06/**           S     NO
     1444000 C000043          25    09/11/**  11/07/**  11/07/**           S     NO
      123000 C000042          50    09/11/**  11/14/**  11/14/**           S     NO
     1670000 C000041         300    09/11/**  10/12/**  10/12/**           S     NO



         --- END OF ORDERS ---


                                                    CK02 PAGE FORWARD
                                                    CK24 END OF JOB
```

Interfaces

The Order Entry and Invoicing application is the source of data for other MAPICS applications:

- If Accounts Receivable is installed, invoice and credit memo summary records are passed to Accounts Receivable. These records are used by Accounts Receivable to update the amount due for the customer invoiced. Accounts Receivable information is used for credit checking.
- If Inventory Management is installed, Order Entry and Invoicing prints a transaction register of shipped items, and posts these items into the inventory master records. OE & I also relates specific orders for items to the appropriate item inventory records.
- If Sales Analysis is installed, Order Entry and Invoicing passes information related to customer, salesman and item transactions.
- If Material Requirements Planning is installed, inventory master records are flagged when order changes have been processed; this allows MRP to review items that may need to be replanned.
- If Capacity Requirements Planning is installed, customer orders can be included optionally as work load during a planning run.
- If Forecasting is installed, Order Entry and Invoicing saves customer order booking information each period. This information is used by Forecasting to revise forecasts based on the most recent demand data.
- If Master Production Schedule Planning is installed, Order Entry and Invoicing passes information about customer orders.
- If Location/Lot Management is installed, Order Entry and Invoicing passes information about customer orders so that any customer-specified item lots can be allocated before the pick list is printed.

Inventory Management

Information flow

Figure 2-3 shows how information flows through the Inventory Management application. The numbers in the following discussion refer to that figure.

In the Inventory Management transaction and order release processing cycles, shipments, receipts, adjustments, and orders are entered into the system **1**, and the inventory transaction register, released order audit lists, and shortage reports are printed **2**.

At month end, month-to-date totals are reset, and the stock status report can be printed **3**. At year-end, year-to-date totals are reset.

On request, the item price list, stock status review, inventory analysis reports, physical inventory reports, LIFO/FIFO reports, reorder reports, order status reports, and the ABC analysis can be printed **4**.

INQUIRIES

Shipments, receipts,
adjustments, purchase,
and manufacturing
order release and
inquiries

1

IM
INVENTORY
MANAGEMENT

2 Shortage reports

Released order audit list

Stock Transaction Register

Transaction processing cycle

3 Stock Status Report

Monthly

System printer

4 LIFO/FIFO reporting

Physical Inventory Reports

Inventory Analysis Reports

Stock Status Review

Item price list

Reorder reports

Order status reports

ABC analysis

On request

Figure 2-3. Inventory Management information flow

Application functions

Transaction processing

The Inventory Management application supports the processing of many types of inventory transactions. The transaction types and their uses are as follows:

- Cost adjustment. Recalculates the average unit cost and replaces the last unit cost.
- Average cost replace. Changes the previous average unit cost.
- Standard cost replace. Changes the standard unit cost.
- Inventory adjustment. Adjusts the quantity on hand.
- Planned issue. Processes individual component issues to manufacturing orders.
- Miscellaneous issue. Processes item issues not related to orders.
- Unplanned component issue. Simultaneously adds a component item to a manufacturing order and records the issue.
- Interwarehouse transfer. Processes the movement of items from one warehouse to another.
- Pick complete by item. Processes the issue of an item to multiple manufacturing orders.
- Pick complete by order. Processes component issue in full or in sets to a manufacturing order and records exceptions.
- Miscellaneous receipt. Processes receipts for items that do not have an open order.
- Purchase receipt to dock. Processes purchased items received at the dock.
- Purchase receipt to inspection. Processes purchased items received at inspection.
- Purchase receipt to stock. Processes purchased items received to stock.
- Production receipt. Processes end items received from production.
- Component return to stock. Processes component returns from production to stock.
- Sales shipment. Processes sales shipments if OE & I is not installed and interfacing.
- Manufacturing component scrap. Processes component items that have been scrapped on a manufacturing order.
- Manufacturing order scrap. Processes parent items that have been scrapped.
- Purchase order scrap. Processes items that have been scrapped on a purchase.
- Scrap from stock. Processes items that have been scrapped from stock.

These transactions are entered and edited individually, and when error free, the data immediately updates the inventory master files, or the update can be performed later in batch mode. A register is printed to show the transactions entered.

If an operator enters a transaction and an error is displayed which cannot be resolved immediately, the operator can allow this transaction to be entered into the system for error reporting on the transaction register. These transactions can be reentered after the errors are resolved.

Notes:

1. If the Purchasing application is installed, all purchase order related transactions will be entered, edited, and passed directly to Inventory Management.
2. If the Location/Lot Management application is installed, location and/or batch/lot data will be required information on transactions where appropriate.

Blanket order support for purchase orders

The purchase order tracking function, associated with order release, can track blanket purchase orders. One control record is entered showing total quantity ordered, then individual release records are entered which show scheduled quantities and dates.

Item costing

The Inventory Management application supports a variety of costing methods for inventory reporting. One method is standard unit costs, which are user-entered and maintained. These standards can be associated with the item master record (establishing a single standard cost for that item for all warehouses), or if you prefer, an override standard cost can be associated with each item/warehouse combination.

The average cost field is automatically recalculated when a costed receipt transaction is processed.

The system also retains the last cost incurred on an item. This provides the replacement cost based on the latest activity for that item. The cost is automatically updated by each costed receipt transaction processed.

If the cost is not known or not entered at the time an inventory receipt transaction is processed, transactions are available to allow adjustments to the average and last costs. The Accounts Payable application can create these transactions from vendor invoice data.

Although all three cost fields are available for each item, you are asked to specify which costing technique (standard, average, or last) is to be used for your inventory. The selected technique is used for costing of issue, sale, and other transactions, and for reports showing costs.

Note: If the Order Entry and Invoicing application is installed, it also uses the selected primary method for costing of invoice sales items. Regardless of the selected method, the other techniques are maintained as secondary or comparative costs.

Inventory valuation

You can elect during system tailoring to support either LIFO or FIFO or both methods to value your inventory. If you select these options, the application saves all receipt and cost adjustment transactions. You can purge transactions based on your individual requirements (that is, if on annualized LIFO, purge once a year).

The transaction files are sequenced by item number, warehouse, and either ascending (LIFO) or descending (FIFO) date sequence. Transaction quantities are matched against the on-hand balance of the item record. The value is determined by summing the transaction amounts for all receipt transactions whose quantities are part of the current quantity on-hand balance. You may list transaction quantities which are to be purged from the file.

You should consult with your auditor on the use of this LIFO/FIFO method to determine whether it satisfies the requirements of all applicable taxing authorities.

Multiple warehouse support

The Inventory Management application tracks inventory stock in up to 35 warehouses. Descriptive item data, such as item descriptions, prices, and tax codes, is in the item master record, and there is one item balance record for each unique item number/warehouse number combination. The number of warehouses may vary by item.

In addition, you can specify one warehouse as the "central" warehouse for use with Material Requirements Planning and Master Production Schedule Planning. The central warehouse contains the balances used by the Material Requirements Planning and the Master Production Schedule Planning applications.

Note: MRP and MPSP use the inventory balances from the "central" warehouse only; these applications ignore balances in other warehouses.

Shortage checking

If desired, shortage checking can be performed at the time inventory receipt transactions are entered. Open customer orders and manufacturing orders using the received item are displayed.

The operation where the item is first used is shown to help in dispatching the item where it is needed.

```
DATE 01/13/**                    INVENTORY TRANSACTIONS         ENTER      AMI3028E WO
                               DISPATCH MATERIALS INQUIRY
                       ITEM NUMBER    WHSE   WHS LOC   QTY RCVD   ORD RCVD
                          03021         1    Y1448      100      P001203
----------------------------------------------------------------------------------
                              PURCHASE RECEIPT
            ORDER    CUSTOMER OR   WHSE  PLNR     QTY       QTY      REQ'D    OPER
             NO.     ITEM NUMBER                 REQ'D     SHORT     DATE     W/U

            C001203  0100895100      1    45       3         3      0104**   SALES
            C001140  01000058000     1    01      12         2      1226**   SALES
            M000500  99237-RM        1   901       8         6      0119**   0120
            M000420  99001           1   850       1         1      0115**   0040
            M000390  99238-RM        1   901       6         1      0114**   0080


        ... END
----------------------------------------------------------------------------------

                                                   CK14 RETURN
```

Physical inventory

Physical inventory is usually taken periodically. On request, the Inventory Management application prints a physical inventory list that serves as a turnaround document for warehouse personnel to record the actual counts. The list includes item number, warehouse, warehouse location, item description, unit of measure and, if desired, the current on-hand balance.

Several methods are available for selecting the items to be counted:

- All items or a range of item numbers
- By item class
- By warehouse
- By processing logic which occurs in one of four ways:
  - By a code in the item balance record that implies cycle count based on time (1 = monthly, 2 = quarterly, 3 = semiannually)
  - By detecting when a transaction causes a negative on-hand condition. The item is flagged for cycle counting.
  - By comparing the count of inventory transactions for an item to a manually entered number (for example, count after every 100 transactions)
  - By a scheduled "Date of Next Count" field in the item balance record. When a purchase or manufacturing order is placed for an item, the order due date is placed in this field. Physical counts can thus be taken before order receipt; therefore, counts should take place when the quantity on hand is at a low level. The date field can also be manually entered and maintained.

From the turnaround documents, the operator can enter the actual count data into the system. A report is printed showing the variance between the counted quantity and the quantity stored in the computer file. After verifying the counts, the operator can modify the entries at a work station. A register is printed providing an audit trail of all adjustments to the on-hand balance.

Purchase and manufacturing order release

This function records both purchase orders and manufacturing orders. The purchase orders released are available for tracking to help you stay aware of your current outstanding orders. Control of these orders aids you in preventing overdue situations which can cause component shortages on manufacturing orders. If the Purchasing application is installed, purchase order release information is passed to Inventory Management.

Note: Purchase order forms are printed by the Purchasing application.

During the release of manufacturing orders, order shortage and item shortage reports can be printed showing the items for which insufficient material is available to fill the order. An "order set" of system data records is created to be used to edit order transactions and track order status. If Location/Lot Management is installed, allocation to location or batch/lot can be done anytime before pick lists are printed. Shop packets (including picking lists) can be printed for released orders.

During entry of manufacturing orders, component availability can be checked as the order is entered. The order quantity can be changed and component availability redisplayed.

Note: If Location/Lot Management is installed, once an order has been released, the Location/Lot Management allocation system can be used to allocate material at a particular location, specific material lots, or a combination to a manufacturing order.

Offline diskette support

The Inventory Management application is designed to operate in an interactive mode for transaction processing. However, during peak load requirements or to provide for maintenance of off-site inventories, transactions can be recorded offline on a diskette.

Transactions entered from diskette are processed in a batch environment. The diskette data is transferred to the IBM System/36 and a batch edit is performed. Error correction can be handled either offline or through a work station. The batch of transactions can tnen be released for updating the master files.

The diskette entry function provides the same transaction capability as the interactive transaction processing with two exceptions: no provision is made for entering the pick complete by item transactions or those transactions associated with the Purchase and Manufacturing Order Release function, and master file maintenance must be carried out at a work station terminal.

Operations

All operations for the Inventory Management application start with the Main Menu. This menu approach provides considerable flexibility in selecting the job to be performed.

Because of the number of functions performed by Inventory Management, second-level menus are used. For example, the operator selects reports from the Main Menu, and a second-level menu appears so the operator can select the desired report.

```
COMMAND                          MENU: AMIM00                        X6
                        I N V E N T O R Y   M A N A G E M E N T
                                  MAIN MENU
                    1 INQUIRY
                    2 REPORTS
                    3 TRANSACTION PROCESSING
                    4 ORDER RELEASE AND CLOSEOUT - P.O./MFG.
                    5 PHYSICAL INVENTORY
                    6 PERIOD CLOSING ACTIVITY
                    7 FILE MAINTENANCE

                    8 RETURN TO APPLICATION SELECTION MENU




Ready for option number or command
```

The optional security code feature interacts with the menu and subsequent operations to ensure only those individuals designated to have access to specific data and operations are permitted to continue processing.

Entering transactions and updating the inventory files

The Inventory Management application processes many types of transactions. Transactions entered are edited against the master files, and if no errors are found, the master files can be updated immediately to reflect the latest transactions. If an operator enters a transaction which is determined to be invalid (for example, the item number is not on the file), the error is displayed immediately. If the operator cannot correct the error, the system can save the erroneous transaction for later printing on an error log, thus ensuring that all transactions are recorded and processed. This method of entry allows the operator to efficiently enter large volumes of transactions, while master files reflect the most current activity.

For most transactions, up to four of the same type can be entered on a single display to provide operator efficiency.

Ease of use has also been designed into complex transactions. For example, entry by exception is incorporated into several transaction types. The following display shows how component planned issue transactions can be entered. The display allows the operator to view the required components for the manufacturing order and enter exception quantities when the actual picked quantity differs from the expected pick quantity (pending issues).

1   End item being manufactured.

2   Pick extension quantity. Used if the components are picked in sets; that is, the pick is made for one day's production, not for the entire order quantity.

3   Quantity of end item yet to be completed on the order.

4   Calculated issue quantity (pick quantity x quantity per). Can be changed by the operator.

```
DATE 01/05/**                    INVENTORY TRANSACTION            ENTER      AMI3D14E WO
            PICK COMPLETE BY ORDER (PC) - COMPONENT ITEM ISSUES
            ORDER       ITEM NUMBER      WHSE  PICK QTY  OPEN QTY   STATUS
            M001200  26006-22   1          1        10  2    50  3  40
----------------------------------------------------------------------------------

LINE    COMPONENT     WHSE  WHSE  SEQ.   QTY     U/M    QTY      ISSUED    PENDING
NO.     ITEM NUMBER         LOC   NO.    PER            REQ'D    TO-DATE   ISSUES

  1 03426-C             1   AX-12  1001  12.000  EA     600       240       120
  2 27006-20            1   Y0981  1002   1.000  EA      50        20        10
  3 27006-90            1   L8756  1003  10.000  EA     500       200       100   4
  4 03021               1   P6210  1010   2.000  EA     100        20        20
  5 03385               1   YARD   1012   1.000  EA      50        10        10
  6 03398               1   T6213  1013   4.000  EA     200        80        40
  7 03021               1   P6210  1020   2.000  EA     100        20        20
  8 99756-RM            1   YARD   1021   1.000  EA      50        20        10
... MORE
----------------------------------------------------------------------------------
ENTER EXCEPTIONS:
        LINE NO. 3          QTY PICKED      95       CK02 PAGE FORWARD
                                                     CK03 PAGE BACKWARD
                                                     CK06 IGNORE CHANGES
                                                     CK08 ACCEPT CHANGES
```

Printing the inventory transaction register

The Inventory Transaction Register is an audit trail of those transactions posted to the master files. It can be run at any time and prints the transactions from all data entry batches not previously printed. Exception conditions, such as over receipt of an item, are flagged.

```
GATEWAY MFG. CO                        INVENTORY TRANSACTION REGISTER               DATE 01/12/**  TIME 14.21.11  PAGE   1  AMV3G
                                              PROCESSED ITEMS

ORDER          ITEM      -WHSE- OLD / NEW           DESCRIPTION          TRANSACTION    TRANSACTION  REV  BCH  WS
NUMBER         NUMBER    NO  TR TRAN DATE                               TYPE           CODE              NO.  ID

BLKT VENDOR   SEQ. CMP. REASON            TRANS   U/   TRANS           OLD/NEW    VALUE CHNG/   --------- OLD/NEW BALANCE ---------
REFERENCE     NO.  CD.                    QTY     /M   AMOUNT          STD COST    VARIANCE    ON-HAND  ON-ORDER  ALLOC     AVAIL

M000500  03021              1   12/10/**  VALVE                       PLANNED ISSUE        IP            012  W4
                1012           01/11/**       6   EA    60.0000       10.0000     60.00-       8      50        6        52
                                                                                  0.00        2      50        0        52
P000040  02892                 01/01/**  LOCK CLIP                    PURCHASE RECPT-STOCK RP            012  W4
02   026521      C             01/10/**     100   EA   125.0000        1.2500    125.00        5      90       10        85
                                                                       1.2500      0.00      105       0       10        95
W AM-3320 ITEM HAS BEEN OVER RECEIVED

P005620  03905             1   11/11/**  COLLAR                       PURCHASE RECPT-INSP  RI            012  W4
02   056001                    01/11/**     200   EA     0.0000       10.5000      0.00       10     200       12       198
REF-AL W.                                                             10.5000      0.00       10     200       12       198
M000680  03428             1   01/10/**  STAND                        PRODUCTION RECEIPT   RM            012  W4
                               01/10/**       5   EA   600.0000      120.0000    600.00        0       5        0         5
REF-01520X                                                          120.0000      0.00        5       0        0         5

          06014             1   10/10/**  NUT 3/8 HEX                 MISCELLANEOUS ISSUE  IS            012  W4
                               01/12/**       5   PC    10.5000        2.1000     10.50-    2000       0       50      2000
QC SAMPLE                                                              2.1000      0.00     1995       0       50      1995
          04632             1   01/11/**  WASHER                      MISCELLANEOUS RECPT  RC            012  W4
                               01/11/**    5000   EA  2450.0000-        .4900   2450.00      100       0        0       100
                                                                        .4900      0.00     5100       0        0      5100
C001503  27002-01          1   01/11/**  ADAPTER PLATE               SALES SHIPMENT       SA            012  W5
                               01/12/**      12   PL   144.0000       12.0000    144.00-      65     100        0       165
CUST PK UP                              SALES AMOUNT  568.2200       12.0000      0.00       53     100        0       153
          27000-02         1   04/21/**  COMPRESSOR                  SCRAP FROM STOCK     SS            012  W9
                          BR   01/11/**       1   EA   189.7800-     189.7800    189.78-       8       0        0         8
BREAKAGE                                                            189.7800      0.00        7       0        0         7

TOTAL QUANTITY          5.329

TOTAL AMOUNT            0.0000

TOTAL TRANSACTIONS         8
```

Purchasing and manufacturing order entry/release

This function allows user departments to enter order information into the Inventory Management application for manufacturing and purchase orders. On-order quantities are reflected in the calculation of available inventory. Although the actual purchase order forms are not printed by Inventory Management, an audit trail showing release date, due date, vendor, item number, and quantity is produced. Blanket purchase orders (standing orders with multiple release dates) are handled, as well as single purchase orders.

For manufacturing orders, the procedure varies somewhat. The audit trail still shows the item number, due date, and quantity. Also, component shortages are identified and printed. A material picking list is produced showing the necessary components.

Purchase order release

Purchase order tracking is accomplished by using the display shown here for entering the order information.

Note: Inventory Management tracks purchase orders. The Purchasing application performs additional purchasing-related functions, including the actual creation and printing of the purchase order.

```
DATE 12/11/**        ORDER ENTRY - PURCHASE                  ENTER      AMI4B2  W1

ORDER NO  ITEM NUMBER      WH QUANTITY FOLLOW DATE  DUE DATE  REFERENCE  CUST JOB
P018066   03385             1   3000    0112**      0115**

BLNKT   PLANR   ITEM DESCRIPTION               VENDOR  VENDOR CATALOG NO  STK LOC
         901    WRENCH                         072303  WR-BE-3/8          P110









                                            CK03 PAGE BACKWARD
                                            CK19 RETURN TO SELECT
                                            CK24 DISPLAY STATUS
```

Blanket purchase orders can be entered, with all or a portion of the detail about releases against the order. The additional release information can be entered later, as release dates and quantities become firm. The system creates records in the open order files, so it can edit future transactions and track the status of each phased release.

If the Material Requirements Planning application is installed, order release may be started using displays in the Material Requirements Planning application, and the same records are created and the same audit listing produced as if Inventory Management were used alone.

Manufacturing order entry: For manufacturing orders, the user may want to enter the component materials to be used to make this order. If the Product Data Management application is installed, this information can be automatically copied from the product structure file.

A pre-release component availability check can be made. The order can be rejected, released with shortages, or released with a reduced order quantity.

1 Order quantity can be changed and component availability redisplayed.

2 Shows components already allocated for orders ready for release.

3 Shows components allocated to released manufacturing orders and open customer orders.

4 Component shortages are highlighted.

```
DATE 12/29/**        ORDER ENTRY - COMPONENT AVAILABILITY   ENTER      AMI4A4A W4

ORDER NO   ITEM NUMBER    WH QUANTITY  START DATE  DUE DATE  REFERENCE  CUST JOB
M000070    27005-A         1    [1] 50   0103**     0117**   SPEC. 41A

B/M  RTG  PLANR    ITEM DESCRIPTION                ENG DRAWING      STK LOC  PRI
NOW  YES  90001    PUMPING UNIT                    AX00400                    2

     S-NUMBER
                                            [2]      [3]                 [4]
COMPONENT                        AVAIL TO  PENDING   MFG/CUS               TOTAL
   ITEM      I/T   REQUIRED     ALLOCATE  MFG ALLOC   ALLOC   ON HAND    ON ORDER
27000-02      4       50          1201      300       100      1601         0
27001-01      4       50            43      100         0       143       200
27002-01      4      100           250        0         0       250        50
27003-20      4       50            99        8        12       119       120
33400-A       4       50            75        5        10        90         0

... END
                                                  CK02  PAGE FORWARD
                                                  CK03  PAGE BACKWARD
                                                  CK08  ACCEPT ORDER
                                                  CK09  REJECT ORDER
```

Manufacturing order release: The system creates material allocation records in the Open Order Material Detail file, which is used to allocate material for each released shop order. This feature is important, because it ensures that material requirements are known and identified until the components are withdrawn from stock. The total quantity allocated is stored in the balance record for each component item.

Orders which have shortages can be printed on the Order Shortage Report.

```
GATEWAY MFG CO                         ORDER SHORTAGE REPORT                    DATE 12/11/**  TIME 19.52.59  PAGE   1  AMI4W1
-----------------------------------------------------------------------------------------------------------------------------
ORDER   -   ITEM   -   WHS   -          DESCRIPTION        -     PLANNER   START DATE  DUE DATE    REQ QTY
M000170  26006-20        1    TANK 8 BY 12 INCHES                 901     11/07/**   12/17/**     2,000
                                                                         ooooo   QUANTITY SHORT   ooooo
  - COMPONENT  -  -        DESCRIPTION    -  TYP   REQ DATE    REQ QTY    ALL ORDERS    COMPLETE ONLY
  03426                 TUBE 8 IN DIA         2    11/07/**    2,000       1,900         1,900     SHORT       ooo
  27006-00              TANK TOP 8 INCHES     2    11/07/**    2,000       1,784         1,784     SHORT       ooo
  27006-70              TANK BOTTOM 8 INCHES  2    11/07/**    2,000       1,791         1,791     SHORT       ooo
-----------------------------------------------------------------------------------------------------------------------------
ORDER   -   ITEM   -   WHS   -          DESCRIPTION        -     PLANNER   START DATE  DUE DATE    REQ QTY
M000180  26006-21        1    TANK 10 BY 18 INCHES                901     11/01/**   12/16/**     1,500
                                                                         ooooo   QUANTITY SHORT   ooooo
  - COMPONENT  -  -        DESCRIPTION    -  TYP   REQ DATE    REQ QTY    ALL ORDERS    COMPLETE ONLY
  03426-B               TUBE 10 IN DIA        2    11/01/**    1,500       1,450         1,450     SHORT       ooo
  27006-10              TANK TOP 10 INCHES    2    11/01/**    1,500       1,392         1,392     SHORT       ooo
  27006-80              TANK BOTTOM 10 INCH   2    11/01/**    1,500       1,393         1,393     SHORT       ooo
-----------------------------------------------------------------------------------------------------------------------------
ORDER   -   ITEM   -   WHS   -          DESCRIPTION        -     PLANNER   START DATE  DUE DATE    REQ QTY
M000190  26006-22        1    TANK 12 BY 24 INCHES                901     11/14/**   12/24/**     1,000
                                                                         ooooo   QUANTITY SHORT   ooooo
  - COMPONENT  -  -        DESCRIPTION    -  TYP   REQ DATE    REQ QTY    ALL ORDERS    COMPLETE ONLY
  03426-C               TUBE 12 IN DIA        2    11/14/**    1,000        950           950      SHORT       ooo
  27006-20              TANK TOP 12 INCHES    2    11/14/**    1,000        901           901      SHORT       ooo
  27006-90              TANK BOTTOM 12 INCHES 2    11/14/**    1,000        890           890      SHORT       ooo
  27006-90              TANK BOTTOM 12 INCHES 2    11/14/**    1,000       1,000         1,000     SHORT       ooo
-----------------------------------------------------------------------------------------------------------------------------
ORDER   -   ITEM   -   WHS   -          DESCRIPTION        -     PLANNER   START DATE  DUE DATE    REQ QTY
M000200  27003-20        1    PUMP ASSEMBLY                       902     11/18/**   12/23/**      250
                                                                         ooooo   QUANTITY SHORT   ooooo
  - COMPONENT  -  -        DESCRIPTION    -  TYP   REQ DATE    REQ QTY    ALL ORDERS    COMPLETE ONLY
  03904-A               PUMP SHAFT ASSEMBLY   1    11/18/**     250         100           100      SHORT       ooo
  02892                 LOCK CLIP             4    11/18/**     250
  03010                 PLATE                 4    11/18/**     250
  03011                 THROW-OFF COLLAR      4    11/18/**     250
  03012                 SPRING                4    11/18/**     250
  03025                 PUMP HOUSING ASSEMBLY 1    11/18/**     250
  03370                 MOTOR                 4    11/18/**     250
  03901                 SET SCREW             4    11/18/**     250
  03903                 IMPELLER              2    11/18/**     250
  03905-A               WEAR COLLAR           4    11/18/**     250
  34140-A               CLAMP WITH NUT        4    11/18/**     250
-----------------------------------------------------------------------------------------------------------------------------
    4 ORDERS ON REPORT
```

1   Component requirements

2   Order quantity

3   Quantity on hand minus manufacturing and customer allocations (manufacturing allocations include the required quantity for this order)

4   Allocated quantity exceeds on-hand quantity.

Item shortage report: A material shortage report can also be printed showing each component item that is short and all orders affected by the shortage. This report is especially useful in helping a material planner resolve conflicting shortages.

If the Production Control and Costing application is installed, the manufacturing routing and miscellaneous cost records can be entered through the work station. If Product Data Management is also installed, the routing records can be automatically copied from the Routing file. The shop packets, containing the picking lists, and if Production Control and Costing is installed, the manufacturing operations sheets (routings), may be printed either at order release or at a later time.

```
GATEWAY MFG CO                          ITEM SHORTAGE REPORT                    DATE 12/11/**  TIME 19.52.28  PAGE   1  AMI4Q1

------------------------------------------------------------------------------------------------------------------------------
- COMPONENT  - WHS -        DESCRIPTION        - TYP    PLANNER      ON HAND    ALLOCATED   PICK REQ   PUR ORDERS   MFG ORDERS
02892          1  LOCK CLIP                       4       907         5,000         0          0          0           0
   ORDER    -   ITEM    - -        DESCRIPTION          - REQ DATE  DUE DATE    REQ QTY               REMAINING
   M000200  27003-20       PUMP ASSEMBLY                 11/18/**  12/23/**      250                   4,750
------------------------------------------------------------------------------------------------------------------------------
- COMPONENT  - WHS -        DESCRIPTION        - TYP    PLANNER      ON HAND    ALLOCATED   PICK REQ   PUR ORDERS   MFG ORDERS
03010          1  PLATE                           4       907         7,266         0          0          0           0
   ORDER    -   ITEM    - -        DESCRIPTION          - REQ DATE  DUE DATE    REQ QTY               REMAINING
   M000200  27003-20       PUMP ASSEMBLY                 11/18/**  12/23/**      250                   7,016
------------------------------------------------------------------------------------------------------------------------------
- COMPONENT  - WHS -        DESCRIPTION        - TYP    PLANNER      ON HAND    ALLOCATED   PICK REQ   PUR ORDERS   MFG ORDERS
03011          1  THROW-OFF COLLAR                4       907        15,643         0          0          0           0
   ORDER    -   ITEM    - -        DESCRIPTION          - REQ DATE  DUE DATE    REQ QTY               REMAINING
   M000200  27003-20       PUMP ASSEMBLY                 11/18/**  12/23/**      250                  15,393
------------------------------------------------------------------------------------------------------------------------------
```

```
------------------------------------------------------------------------------------------------------------------------------
- COMPONENT  - WHS -        DESCRIPTION        - TYP    PLANNER      ON HAND    ALLOCATED   PICK REQ   PUR ORDERS   MFG ORDERS
27006-70       1  TANK BOTTOM 8 INCHES            2       905          209          0          0          0           0
   ORDER    -   ITEM    - -        DESCRIPTION          - REQ DATE  DUE DATE    REQ QTY               REMAINING
   M000170  26006-20       TANK 8 BY 12 INCHES           11/07/**  12/17/**     2,000                  1,791-   SHORT    ***
------------------------------------------------------------------------------------------------------------------------------
- COMPONENT  - WHS -        DESCRIPTION        - TYP    PLANNER      ON HAND    ALLOCATED   PICK REQ   PUR ORDERS   MFG ORDERS
27006-80       1  TANK BOTTOM 10 INCH             2       905          107          0          0          0           0
   ORDER    -   ITEM    - -        DESCRIPTION          - REQ DATE  DUE DATE    REQ QTY               REMAINING
   M000180  26006-21       TANK 10 BY 18 INCHES          11/01/**  12/16/**     1,500                  1,393-   SHORT    ***
------------------------------------------------------------------------------------------------------------------------------
- COMPONENT  - WHS -        DESCRIPTION        - TYP    PLANNER      ON HAND    ALLOCATED   PICK REQ   PUR ORDERS   MFG ORDERS
27006-90       1  TANK BOTTOM 12 INCHES           2       905          110          0          0          0           0
   ORDER    -   ITEM    - -        DESCRIPTION          - REQ DATE  DUE DATE    REQ QTY               REMAINING
   M000190  26006-22       TANK 12 BY 24 INCHES          11/14/**  12/24/**     1,000                    890-   SHORT    ***
   M000190  26006-22       TANK 12 BY 24 INCHES          11/14/**  12/24/**     1,000                  1,890-   SHORT    ***
------------------------------------------------------------------------------------------------------------------------------
- COMPONENT  - WHS -        DESCRIPTION        - TYP    PLANNER      ON HAND    ALLOCATED   PICK REQ   PUR ORDERS   MFG ORDERS
34140-A        1  CLAMP WITH NUT                  4       907         7,432         0          0          0           0
   ORDER    -   ITEM    - -        DESCRIPTION          - REQ DATE  DUE DATE    REQ QTY               REMAINING
   M000200  27003-20       PUMP ASSEMBLY                 11/18/**  12/23/**      250                   7,182
------------------------------------------------------------------------------------------------------------------------------
   20 ITEMS ON REPORT              10 ITEMS WITH SHORTAGE
```

Final assembly order release: This release is similar to normal order release with the following exceptions. It is used to release final assembly manufacturing orders for products which have standard options. The Product Data Management application must be installed before this function can be used. In addition to the data entered in the first step of normal order release, the user enters the "S-number" to select the product options. The system then uses the bill of material to generate material allocation records and prints picking lists according to the set of options specified by the "S-number."

If the Order Entry and Invoicing application is installed, the user can enter the sales order number, and the system generates a final assembly order for each line item in that sales order which has an option selection number.

Data Collection System Support considerations: If the Data Collection System Support application is installed and if you elected to use the turnaround file, the system creates turnaround records for materials and operations. These detailed records contain a unique eight-digit number, which is system generated, that relates the turnaround record to the material and operation detail records in the open order files. These turnaround numbers are printed in the shop packet to simplify entry of transactions through the IBM 5230 Data Collection System.

Printing the stock status report

You can print the stock status report during the period-end closing cycle or the stock status review any time during the period. The stock status reports are a summary of inventory activity for the period, sequenced by item number or item number within item class.

The report can be printed showing all or selected warehouses, items, or item classes.

```
     GATEWAY MFG LM$                        PERIOD END INVENTORY STOCK STATUS           DATE  4/09/**  TIME 15.25.50  PAGE   1  AMI6C

                                      1    SEQUENCE BY ITEM

                                    ITEMS FROM 02892            TO 03385   2
     ITEM      ITEM        ITEM     ITEM                     STK PRI
     CLASS     NUMBER      TYPE     DESCRIPTION              U/M U/M                       3

     WHSE VENDOR     BEGIN   ----- PERIOD TO DATE -----   QTY      QTY      QTY      QTY        STANDARD       ON HAND      BASE
     NO. NUMBER      BAL     ISS/SALE RECEIPTS  ADJ.  ON-HAND  ON-ORDER  ALLOC.   AVAIL.     UNIT COST        COST         PRICE

     80  02892           4  LOCK CLIP                        EA EA
      1  012893    6674        0        0       0     6674       0        0     6674           .0100          66.7400      12.820

     70  03010           4  PLATE                            EA EA
      1  036657    3200        0        0       0     3200       0        0     3200           .1500         480.0000       8.975

     70  03011           4  THROW-OFF COLLAR                 EA EA
      1  078444    2481        0        0       0     2481       0        0     2481           .5500       1,364.5500       5.660

     84  03012           4  SPRING                           EA EA
      1  078444    1618        0        0       0     1618       0       12     1606           .0100          16.1800       6.500

     80  03021           4  VALVE                            EA EA
      1  030716    2607        0        0       0     2607     549        0     3156           .2500         651.7500       5.680

     80  03023           4  DISCHARGE FERRULE                EA EA
      1  030716    2203        0        0       0     2203       0      550     1653           .1500         330.4500       6.870

     50  03024           2  SHELL                            EA EA
      1            588        0        0       0      588      25      530       83          7.1010       4,175.3880      80.000

     20  03025           1  PUMP HOUSING ASSEMBLY            EA EA
      1            5002       0        0       0     5002     548      800     4750          7.9635      39,833.4270      68.700

     70  03370           4  MOTOR                            EA EA
      1  054480    300        0        0       0      300       0       65      235          9.9500       2,985.0000      14.950

     80  03385           4  WRENCH                           EA EA
      1  072303    100-       0        0       0       20    1123        0     1143           .3500           7.0000        .690
      2  072303    100        0        0       0      100       0        0      100           .3500 *        35.0000        .690
        ITEM TOTAL    0        0        0       0      120    1123        0     1243                         42.0000

     * - UNIT COST DEFAULT TAKEN                                                           REPORT TOTAL     49,945.49
```

1. Report sequence selection

2. Report content selection

3. Can be standard, average, or last cost.

Month-end closing activity

At month-end closing, current-period fields in the master files are set to zero for the start of a new period. A stock status report should be run as part of closing activity so that an audit trail is available reflecting current-period activity.

Printing key management reports

The inventory analysis report can be run in several sequences and in two formats to provide inventory and financial information. The following fields can be used both to sequence the report and to select items to be printed.

Item number
Vendor number
Date of last use
Profit amount
Profit percent
On-hand cost

In addition to the various sequences available, the operating personnel can request the information in either financial format (dollar values) or stock movement format (quantity values).

Analysis of your high-investment items in terms of stock and dollar flow can lead to reduced handling and better use of storage space. Obsolescence costs can be reduced by spotting trends before large supplies of an item are accumulated.

```
GATEWAY MFG CO                INVENTORY ANALYSIS REPORT - STOCK MOVEMENT        DATE 12/11/**  TIME  8.39.49  PAGE   1  AMI2K2

                                       SEQUENCE BY ITEM NUMBER

                           ITEM NUMBERS    FROM 26006            TO 27006

           ITEM       WH  VENDOR    DATE OF    ESTIMATED   AVERAGE            ORDER     PTD       PTD       PTD       PTD
  RANK     NUMBER     NO. NUMBER U/M LAST SALE ANNUAL USE   USE     E.O.Q.   POINT     ISSUES    RECEIPTS  ADJUSTS   USED

           ITEM                      DATE OF   AVERAGE     AVERAGE                      YTD                           YTD
           DESCRIPTION               LAST USE  TURNOVER    LEVEL                        ISSUES                        USED

      1 26006-20    A      EA  0/00/00    .00        0        0        0        0         0         0         0        0
  TANK 8 BY 12 INCHES      0/00/00    .0         0                                        0

      2 26006-20    B      EA  0/00/00    .00        0        0        0        0         0         0         0        0
  TANK 8 BY 12 INCHES      0/00/00    .0         0                                        0

      3 26006-20    1      EA  0/00/00  2268.00     174      456      402     1,500     1,589       0      1,575
  TANK 8 BY 12 INCHES      0/00/00   24.5        92                                   1,500                        18,900

      4 26006-21    1      EA  0/00/00  1322.64     102      273      210       875       905       0        919
  TANK 10 BY 18 INCHES     0/00/00   15.4        86                                  10,500                        11,022

      5 26006-22    1      EA  0/00/00   945.36      73      176      165       625       716       0        656
  TANK 12 BY 24 INCHES     0/00/00   15.7        60                                   7,500                         7,878

      6 27000-02    1 060421 EA 0/00/00 4500.00     346      283    1,119     3,042       0         0      3,125
  COMPRESSOR               0/00/00    6.2       725                                  36,500                        37,500

      7 27001-01    1 036657 EA 0/00/00 4380.00     337    5,192      556         0       0         0      3,042
  ADAPTER GASKET           0/00/00    4.5       966                                       0                        36,500

      8 27002-01    1 036657 EA 0/00/00 4380.00     337    1,478      608         0       0         0      3,042
  ADAPTER PLATE            0/00/00    4.5       972                                       0                        36,500

      9 27003-20    1      EA  0/00/00  4500.00     346      300      108         0     3,334       0      3,125
  PUMP ASSEMBLY            0/00/00   12.4       363                                                                37,500

     10 27004-01    1      EA  0/00/00  4368.00     336      935      575     3,000     4,099       0      3,034
  HANDLE                   0/00/00    9.0       485                                  36,000                        36,400

     11 27005-A     A      EA  0/00/00    .00        0        0        0        0         0         0         0        0
  PUMPING UNIT             0/00/00    .0         0                                        0

     12 27005-A     1      EA  0/00/00  4380.00     337      117      108     3,000     4,105       0      3,042
  PUMPING UNIT             0/00/00    9.0       488                                  36,000                        36,500

  NOTE-  *  MANUALLY ENTERED

  TOTAL SUMMARY RECORDS     12

  PTD AND YTD USED INCLUDES SALES
```

Calculates EOQs by the following formula:

$$EOQ = \sqrt{\dfrac{2AS}{I}}$$

S = cost of setup and order writing in dollars
A = annual usage
I = cost of carrying one unit in stock for one year (unit cost x carrying rate)

Calculates order points by the following formula:

$$OP = \dfrac{XY}{Z} + \text{safety stock}$$

X = estimated annual usage
Y = lead time in days
Z = number of business days in year

Includes manufacturing and miscellaneous issues

Represents all usage, including customer sales

Printing the physical inventory reports

Inventory is a major company asset. Therefore, you need to periodically reconcile your computer records with the quantities you have in the stockroom or warehouse. Procedures are supplied in this application which can simplify the task of reconciliation. With the valuation and variance report, you can quickly and easily spot all discrepancies and adjust inventory levels accordingly. More important, this cycle counting can help you analyze (or determine) the reasons for discrepancies and take steps to avoid recurrence.

The cycle-counting feature provides the same reports for items that are to be cycle counted.

In order to take a physical inventory, whether through cycle count or physical count, a report is printed in item number within warehouse location within warehouse number sequence. This list provides a turnaround document for warehouse personnel to record actual counts.

The quantity on hand of each item can be listed, but is usually omitted from the copy sent to the counters, so it does not influence the resulting counts. All inventory items can be listed, or a group of items can be selected in one or all warehouses, and/or a range of item numbers or locations can be selected within one warehouse.

Printing LIFO/FIFO reports

Two reports are associated with maintaining either LIFO or FIFO inventory values. The first is the purge report, which is run as needed. It provides an audit trail of the transactions no longer part of the on-hand quantity of an item, and which are therefore removed from the LIFO/FIFO file. If you use an annualized LIFO system, all receipt transactions for the year will be saved and should be purged only before doing the actual inventory valuation.

The second report is the actual valuation report.

Last transaction is adjusted so that sum of saved transactions equals quantity on hand

This report can be prepared in item type, item class, or warehouse sequence. After this report is run, only the LIFO or FIFO transactions which print are saved for the start of the next accounting cycle.

You should consult with your auditor on the use of this LIFO/FIFO method to determine whether it satisfies the requirements of all applicable taxing authorities.

Printing the ABC analysis report

This report is designed to highlight inventory items which represent the largest dollar investments. It lists items by annual usage expressed in dollars, with the higher value items shown first. In most inventories, a few items account for most of the dollar value of annual usage. Knowledge of those items can influence your decisions about order quantity, order point, safety stock, or cycle-count frequency.

The report may be printed for all or one warehouse and all or one item class.

```
 GATEWAY MFG LM$                         A-B-C ANALYSIS REPORT                    DATE  4/09/**  TIME 16.28.33  PAGE   1  AMI2H

   WAREHOUSE- 1

                                                                              1                          2
                                                               ------------PRIMARY CALCULATION------------  ------SEC CALC------
 WH    ITEM       ITEM        ITEM          STK PRI ITEM  CUM %  ESTIMATED   STANDARD   ANNUAL    CUMULATIVE CUM % ANNUAL USE CUM %
 NO   NUMBER      TYPE     DESCRIPTION      U/M U/M COUNT ITEMS ANNUAL USE  UNIT COST  USAGE AMT  USAGE AMT  USAGE AT PRICE PRICE

                                                   116  100.0                                   692,181  100.0  1,319,366 100.0

 1 99001       1 SPRAY UNIT              EA EA    1    .9   1215.00    84.9622   103229   103229  14.9   182250  13.8
 1 27005-A     1 PUMPING UNIT           EA EA    2   1.7   2463.75    37.7368    92974   196203  28.3   184781  27.8
 1 27003-20    1 PUMP ASSEMBLY          EA EA    3   2.6   2531.25    27.3337    69188   265391  38.3   124031  37.2
 1 03370       4 MOTOR                  EA EA    4   3.4   3015.00     9.9500    29999   295390  42.7    45074  40.6
 1 03424       1 TREADLE ASSEMBLY       EA EA    5   4.3   2463.75    10.6290    26187   321577  46.5    51739  44.6
 1 03025       1 PUMP HOUSING ASSEMBLY  EA EA    6   5.2   2868.75     7.9635    22845   344422  49.8   197083  59.5
 1 27007-A1    1 BASE ASSEMBLY          EA EA    7   6.0   2430.00     8.2675    20090   364512  52.7        0  59.5
 1 03024       2 SHELL                  EA EA    8   6.9   2576.25     7.1010    18294   382806  55.3   206100  75.1
 1 27000-02    4 COMPRESSOR             EA EA    9   7.8   2531.25     6.8500    17339   400145  57.8    30248  77.4
 1 99750-RM    3 1/8 SHEET METAL        SF SF   10   8.6  18299.14      .9000    16469   416614  60.2        0  77.4
 1 27007-20    2 FRAME                  EA EA   11   9.5   3001.50     4.5600    13687   430301  62.2        0  77.4
 1 99910-RM    3 IRON PLATE 1/4 IN - HRS LB LB  12  10.3  13945.64      .9500    13248   443549  64.1        0  77.4
 1 03443       2 MOTOR SUPPORT          EA EA   13  11.2   2430.00     5.1417    12494   456043  65.9        0  77.4
 1 99465-RM    3 ANGLE IRON 1 X 1 X 3/16 FT FT 14  12.1  25110.00      .4675    11739   467782  67.6        0  77.4
 1 26006-22    1 TANK 12 BY 24 INCHES   EA EA   15  12.9    531.77    20.9960    11165   478947  69.2    21244  79.0
 1 99001-1     1 SPRAY UNIT - PVT LABEL EA EA   16  13.8    121.50    85.2296    10355   489302  70.7    21263  80.6
 1 03422       2 LEVER ARM              EA EA   17  14.7   4927.50     2.0822    10260   499562  72.2        0  80.6
 1 03903       2 IMPELLER               EA EA   18  15.5   2868.75     3.5414    10159   509721  73.6        0  80.6
 1 26006-20    1 TANK 8 BY 12 INCHES    EA EA   19  16.4   1275.75     7.9079    10089   519810  75.1    18498  82.0
 1 34250-A     1 TANK COVER ASSM        EA EA   20  17.2   2565.00     3.8723     9932   529742  76.5    28215  84.2
 1 26006-21    1 TANK 10 BY 18 INCHES   EA EA   21  18.1    743.99    12.9386     9626   539368  77.9    18414  85.6
 1 03426-B     2 TUBE 10 IN DIA         EA EA   22  19.0   1452.74     6.3412     9212   548580  79.3        0  85.6
 1 03428       2 STAND                  EA EA   23  19.8   2430.00     3.6341     8831   557411  80.5        0  85.6
 1 03423       2 TREADLE                EA EA   24  20.7   2531.25     3.1720     8029   565440  81.7    16453  86.8
 1 99990-RM    3 CASTING                EA EA   25  21.6   2607.19     2.9557     7706   573146  82.8        0  86.8
 1 27004-01    2 HANDLE                 EA EA   26  22.4   3028.50     2.5175     7624   580770  83.9    18928  88.2
 1 03594       2 LUG                    EA EA   27  23.3   3127.50     2.3737     7424   588194  85.0        0  88.2
 1 03904-A     1 PUMP SHAFT ASSEMBLY    EA EA   28  24.1   2868.75     2.5238     7240   595434  86.0        0  88.2
 1 03595       1 LUG SUB-ASSEMBLY       EA EA   29  25.0   2565.00     2.6567     6814   602248  87.0        0  88.2
 1 27006-00    2 TANK TOP 8 INCHES      EA EA   30  25.9   2702.25     2.4316     6571   608819  88.0        0  88.2
 1 03426-C     2 TUBE 12 IN DIA         EA EA   31  26.7    531.77    11.1474     5928   614747  88.8        0  88.2
 1 03904-C     2 PUMP SHAFT             EA EA   32  27.6   2531.25     2.2300     5645   620392  89.6        0  88.2
 1 03421       2 HINGE ARM              EA EA   33  28.4   2688.75     2.0822     5599   625991  90.4        0  88.2
 1 99239-RM    3 PLATED CYLINDER 12 IN  EA EA   34  29.3    553.03     9.9411     5498   631489  91.2        0  88.2
 1 27006-10    2 TANK TOP 10 INCHES     EA EA   35  30.2   1452.74     3.2104     4664   636153  91.9        0  88.2
 1 33480-A     4 CONTROL BOX            EA EA   36  31.0   2497.50     1.8500     4620   640773  92.6     7368  88.8
 1 99238-RM    3 PLATED CYLINDER 10 IN  EA EA   37  31.9    773.76     5.3336     4127   644900  93.2        0  88.8
 1 27006-70    2 TANK BOTTOM 8 INCHES   EA EA   38  32.8   2702.25     1.5103     4081   648981  93.8        0  88.8
 1 99950-RM    3 BAR STOCK 1 X 3/8 - CRS FT FT  39  33.6   6779.70      .4970     3370   652351  94.2        0  88.8
 1 99756-RM    3 1/16 SHEET METAL       SF SF   40  34.5   4290.98      .7000     3004   655355  94.7        0  88.8
 1 27006-80    2 TANK BOTTOM 10 INCH    EA EA   41  35.3   1452.74     2.0120     2923   658278  95.1        0  88.8
 1 99544-RM    3 ROUND STOCK 5/8 DIA - CR FT FT 42  36.2   5205.33      .5000     2603   660881  95.5        0  88.8
 1 99237-RM    3 PLATED CYLINDER 8 IN   EA EA   43  37.1   1326.78     1.9569     2596   663477  95.9        0  88.8
 1 27006-20    2 TANK TOP 12 INCHES     EA EA   44  37.9    531.77     4.7531     2528   666005  96.2        0  88.8
 1 03425       2 COVER                  EA EA   45  38.8   2632.50      .9426     2481   668486  96.6     5002  89.2
 1 03415-1     4 SPRAY NOZZLE           EA EA   46  39.7   2551.50      .9500     2424   670910  96.9     4822  89.6
```

1 Report sequence, descending, calculated by annual units times primary unit cost.

2 Annual use at price is the estimated annual usage multiplied by the price.

Printing order status reports

Two reports are available to reflect current status of either
purchase orders or manufacturing orders. The report shown here
is the purchase order status report. The reports are used to help
in planning receipt activity from either outside vendors or the shop
floor.

Either report can be printed in due-date, start-date, or item
sequence. The purchase report can also be run in vendor
sequence. By selecting orders within ranges of due dates or
follow-up dates, you can identify orders where action might be
needed.

Printing reorder reports

Supply levels of many items can change weekly, but only a few may be significant to you. On request, you can get a reorder exception report, with reorder data that includes detail stock data and order quantities in both purchasing and stocking unit of measure, where different.

You can review one or all of your warehouses, a range of vendors, or a range of item classes. With this report, you can see items which require action based on current availability. Lead times, average usage, order point, and order quantities are shown.

```
GATEWAY MFG CO                          INVENTORY REORDER REPORT                    DATE 12/11/**  TIME  8.42.07  PAGE     1  AMI2M

                                         SEQUENCE BY VENDOR

                                        VENDORS FROM 001011 TO 096267

DESCRIPTION

VENDOR ITEM   ITEM      WH  U/M    QTY       QTY       QTY       QTY      ORDER                SAFETY   LEAD   L/T   AVERAGE
NUMBER CLASS NUMBER     NO        ON-HAND  ON-ORDER ALLOCATED AVAILABLE   POINT      E.O.Q.    STOCK    TIME   ADJ   PERIOD USE

NUT
001011  80  07243       1   EA    5,087       0         0       5,087     7,000 *   10,182 *     0     030P   02       665

PLATED CYLINDER 12 IN
006592  30  99239-RM     1   EA    1,017       0         0       1,017     2,500 *     109 *      0     120P   10        76

CASTING
015772  30  99990-RM     1   EA   11,247       0         0      11,247    15,000 *     414 *      0     150P   10       357

HINGE WASHER
018834  80  03587        1   EA   12,631       0         0      12,631    72,000 *    6,961 *     0     015P   02       665

HINGE WASHER
018334  80  03640        1   EA    4,871       0         0       4,871     6,000 *   12,000 *     0     015P   02       665

ROUND STOCK 5/8 DIA - CRS
024775  30  99544-RM     1   FT    5,327       0         0       5,327     8,000 *    1,476 *     0     030P   02       712
```

Inquiries

The Inventory Management application allows you to inquire into the status of items and orders that are in the master files, even while running another procedure. Five basic inquiries are available.

Item balance

This inquiry displays some relatively static information about the item, then details quantity information about the warehouses containing the item.

1 Sum of manufacturing and customer requirements.

2 Sum of manufacturing and purchase orders outstanding.

```
DATE 01/20/**           ITEM BALANCE DETAIL ALL WAREHOUSES            AMI1A1  W4

ITEM 03885                    WRENCH                          U/M EA  TYPE 4
ENG DWG BP0658 "C" SIZE  CLASS 80  WT    .500  UNIT COST DFLT         .3500
MKUP CODE M  PCTS   7.000   6.000   5.000   4.000   3.000   2.000
TAX CODES 0 1 0 0  MAINT DATE 12/22/**

W  ON HAND   ALLOCATED  AVAILABLE  ON ORDER   ORD PT   SAF STK   STND UNIT COST
1    2000          39       2461       500     9500         0          .3500
A      13           0         13         0        2         0          .3500
                             [1]                 [2]



    *** END ***                                        CK02 PAGE FORWARD
                                                       CK24 END OF JOB
```

Item allocation

This inquiry shows the manufacturing allocations against the requested item. It also shows the current status of those allocations.

```
DATE 01/15/**          ITEM BALANCE INQUIRY - MFG ALLOCATIONS              AMI1B1 W7

ITEM 27003-20          WHSE 1  PUMP ASSEMBLY                        U/M EA  TYPE 1
ENG DWG AX00390              CLASS 20   WT    10.0  STND COST        28.3307
QTY ON HAND       300 MFG ALLOC      325 CUST ALLOC          9 NET AVAIL
QTY ON ORDER      750 MAINT DATE 12/30/**  MRP FLAG 1  FLOOR STOCK CODE C


  ORDER NO   QTY REQ'D  ISS QTY  UNISSUED  REQ DATE  LAST ISS  CUST/JOB
  M000220        225        0        225   01/20/**  00/00/00  C000014
  M000150        100        0          0   01/16/**  00/00/00




  *** END ***                                          CK02 PAGE FORWARD
                                                       CK24 END OF JOB
```

Item balance history

This inquiry displays the current quantity information regarding the selected item and also displays sales and use activity against the item and lead times.

```
DATE 01/12/**        ITEM BALANCE INQUIRY   - SALES HISTORY        AMI1C1  W7

ITEM 03590          WHSE 1  AUTO SWITCH                     U/M EA  TYPE 1
CLASS 12  WHSE STOCK LOC G1260  PACKING CODE SK  PLANNER  901
DISC CODE D  PCTS  10.00   15.00      0     0     0     0

   BASE PRICE  STND UNIT COST  TAX CODES  WEIGHT    D A T E   O F   L A S T
      14.500         6.0000    1 0 0 0     1.5  SALE 12/01/** USAGE 12/01/**

ON HAND    PENDING  ALLOCATED  AVAILABLE  ON ORDER   ORD PT  SAF STK
   500        0        50         450        0         80      20

         SALES QTY      SALES AMT   AVG MONTHLY SALES  EST ANNUAL USAGE QTY USED
M-T-D       20           290.00        1125.63                             20
Y-T-D      1051         14561.26                         15523.66         1051

*----------- LEAD TIME ------------*       VENDOR        COST DEV CODE
            CODE                           IN-HSE
         STD   VAR   ADJ   AVG   CUM
MFG       20     5     1    24    70
PUR        0           0     0
MAT*L                            119

                                                  CK02 PAGE FORWARD
                                                  CK24 END OF JOB
```

Open orders

This inquiry provides up-to-date information regarding current status of all outstanding orders for the requested item.

1 Code 40 = activity has been reported against this order.

2 Used for manufactured items.

```
DATE 01/06/**              OPEN ORDERS INQUIRY              AMI101 W2

ITEM 33480-A      WHSE 1  CONTROL BOX                    U/M  EA  TYPE 1
ENG DWG PXS04            CLASS 20  WT   21.6  STND COST     312.0000
QTY ON HAND     100 MFG ALLOC      10 CUST ALLOC      5 NET AVAIL      135
QTY ON ORDER     50 MAINT DATE 11/30/** MRP FLAG 1
                                                              CURRENT
ORDER NO  VEND/JOB  STAT  ORD QTY  QTY OPEN  DUE DATE  HOURS REM  OPER  W/C
M000020   C000152    40      55       50    01/10/**     32.50   0040   18
             [1]                                           [2]

*** END ***                                       CK02 PAGE FORWARD
                                                  CK24 END OF JOB
```

Item availability

This inquiry allows the operator to see current and future requirements against an item, as well as all open purchase and production orders. Operator-entered date parameters add the element of time-phasing both demands and receipts. For example, purchase orders due more than six months from today are not pertinent when you are considering next week's shipping schedule. When used with Order Entry and Invoicing, this inquiry allows an operator to respond to telephone inquiries regarding availability of an item.

1 Operator enters the date parameters.

2 Item availability between date of inquiry and DATE 1 parameter.


```
DATE 12/14/**              ITEM AVAILABILITY                    AMI1E1 W5

ITEM 27002-01      WHSE 1   ADAPTER PLATE                         MMDDYY
                           QTY ON HAND      2000          DATE 1 1214** [1]
                   PRODUCTION ALLOCATIONS                 DATE 2 0112**

                                                 DATE 1    DATE 2      ALL
              SCHEDULED RECEIPTS                 12/14/**  01/12/**   OTHER
ORDER NO   VEND/JOB  STAT  DUE DATE
P000031    072303      10  12/05/**                500
                                                    [2]
              CUSTOMER ORDERS
ORDER NO   CUST NO    B/O  DUE DATE
C000023    00000200        01/11/**                            5
C000022    00001200        01/11/**                            5

                                   NET AVAILABLE   2461      2451      2451


   *** END ***                                     CK02 PAGE FORWARD
                                                   CK24 END OF JOB
```

Interfaces

The Inventory Management application supports the following MAPICS applications, if they are installed:

- The Order Entry and Invoicing application updates the inventory records of shipped or returned goods during invoicing. It also associates individual item orders to the appropriate inventory record.
- The Sales Analysis application receives sales transactions from Inventory Management.
- Inventory Management supplies Material Requirements Planning and Master Production Schedule Planning with inventory balances and the status of released orders. It can also work with Material Requirements Planning to perform the order release function.
- Inventory Management supplies Capacity Requirements Planning with related order information so that the work load may be measured against work center capacity to identify overload and underload conditions.
- If Product Data Management is installed, Inventory Management can use the bill of material for an item to determine how many of what components are needed to manufacture that item and allocate them as an order is released. Also, if inventory is valued at standard cost, the cost calculated by Product Data Management can be used as the new standard cost at the end of an accounting period.
- Inventory Management supplies Production Control and Costing with the materials used in manufacturing orders, and the two applications work together to handle order release, the printing of shop packets, material scrap, and order closeout.
- Inventory Management works with Data Collection System Support to handle inventory transaction reporting via the IBM 5230 Data Collection System.
- Accounts Payable can generate cost adjustment transactions from vendor invoices.
- Purchasing provides Inventory Management with current purchase order status information and receiving activity.
- Forecasting can (optionally) calculate order point and safety stock and replace the old values in Inventory Management.
- Inventory Management provides Item Master and Item Balance records which Location/Lot Management updates with location, lot, and quality control information.

Location/Lot Management

Information flow

Figure 2-4 shows how information flows through the Location/Lot Management application. The numbers in the following discussion refer to that figure.

In the Location/Lot Management transaction and allocation processing cycles, order allocations, quality control and non-inventory transactions, and goods received notes data are entered into the system **1**. The associated transaction registers and audit lists are printed **2**. Once items are assigned to locations, inquiries may be done from the four inquiry options **3**. At month end, month-to-date totals are reset and the stock status report can be printed **4**.

On request, the items waiting inspection report, physical/cycle count lists, transaction analysis/batch-lot review report, goods received notes report, and the inventory valuation report can be printed **5**.

3 INQUIRIES
Location detail
Warehouse summary
Item detail
History review

2 Quality control — Transaction processing cycle

Order allocation

Non-inventory transaction

Invoice to Goods Received Notes

4 Stock Status Report

Monthly

1 Order allocation, quality control and non-inventory transactions and Invoice to Goods Received Notes

5 Items waiting inspection — On request

Goods Received Notes

Physical/ cycle count

Stock Status Review

Inventory valuation

Reject items waiting disposition

Trans/Analysis Batch/Lot Report

System printer

L/LM
LOCATION/LOT
MANAGEMENT

Figure 2-4. Location/Lot Management information flow

Application functions

Multiple warehouse stock locations

The Location/Lot Management application supports stocking and control of an item in multiple locations within a warehouse.

Since L/LM is able to control and provide information on all quantities of an item in any stock location, it is not necessary to restrict use of storage space by such traditional approaches as:

- Storing all batches of a particular item in the same area
- Allocating specific storage areas or racking to different QC status or shelf life
- Reserving a block of storage locations for specific items or product groups.

Such storage techniques are normally used to maintain control in a manual or clerical system. Unfortunately, they tend to result in poor utilization of warehouse space, requiring constant adjustment of the storage layout to cope with changes in the business. L/LM provides full control and recording, regardless of where an item or lot is stored or the type of storage being used. Consequently, the maximum utilization of your storage areas can be achieved.

Batch/lot control

For items subject to batch/lot control, the L/LM application provides for the entry of an identification number at the time of initial receipt from either manufacturing or the supplier. The lot number is used to track usage of a certain batch of material or to differentiate between batches of material while in stock. L/LM records all transactions for a lot at receipt to stock and at the time of issue to a manufacturing order or shipment against a customer order.

Shelf life and FIFO control

An item can be designated as subject to storage deterioration and the shelf life specified (in days). When an item has been in inventory for longer than the shelf life, the Quality Control (QC) status is altered to "QC Due." The item then becomes unavailable, and remains so until the QC department has reinspected the item or taken other action.

Quality control tracking

Quality Control is established to provide physical control of inspection or test processes before receipt in stock. The QC area is regarded as an area within the warehouse which is reserved for stock which requires some form of QC inspection. This area is most often used as a quarantine area for stock which has been received from a supplier, but which has not yet been sampled and inspected by the QC department. You can create up to 99 QC areas per warehouse with up to 999 batch/lots per area.

At installation, you are asked whether you want quality control. If you answer "Yes," any item in your system can be defined to have a shelf life and requires inspection when the shelf life has expired. If QC control is selected, batch/lot is automatically selected. However, if QC control is not selected, batch/lot control may still be selected. Whether or not QC control or batch/lot control are selected, any item in the system can require QC inspection on receipt from the supplier or manufacturing. The QC status types are as follows:

- Cyclic shelf life check applicable/not applicable
- Inspect on purchase or manufacturing receipt required/not required
- Batch/lot control required/not required

Bulk store areas

L/LM provides for establishing bulk store areas which need not be delineated by physical boundaries. They are regarded as areas within the warehouse reserved for items which are not QC, batch/lot, or FIFO date controlled. A total of 99 bulk store areas, including one for work-in-process, are allowed for each warehouse.

Stock recording for non-inventory items

The recording of non-inventory items is a convenient feature, aiding in the recording of issues, receipts, and balances of items such as stationery, furniture, and other supplies.

Operations

The Location/Lot Management plan

L/LM provides flexibility in specifying locations within a warehouse, so that most physical layout systems can be accommodated. The basic layout shown in Figure 2-5 provides for:

Aisles — two-character field, representing the rows of stock locations

Bays — two-character field, representing the vertical location within an aisle

Levels — one-character field, representing the horizontal location within a bay

Pallets — the lowest division within an individual bay/level combination, a one-character field

Subdivisions — the lowest division within an individual pallet, a one-character/digit field.

The above designations will appear as field headings on all reports and inquiries. It is not necessary, however, to change already established internal codes. Codes such as building, room, and floor can easily be related to the aisle, bay, or level designations used by L/LM.

L/LM is able to provide detailed location control on all items. However, for items where this degree of control is unnecessary, the bulk store areas can be used. Up to 99 bulk store areas may be established.

Bays
(vertical)

Aisle

"Pallets" (up to 9 per bay/level)

Subdivisions (up to 5 per "pallet")
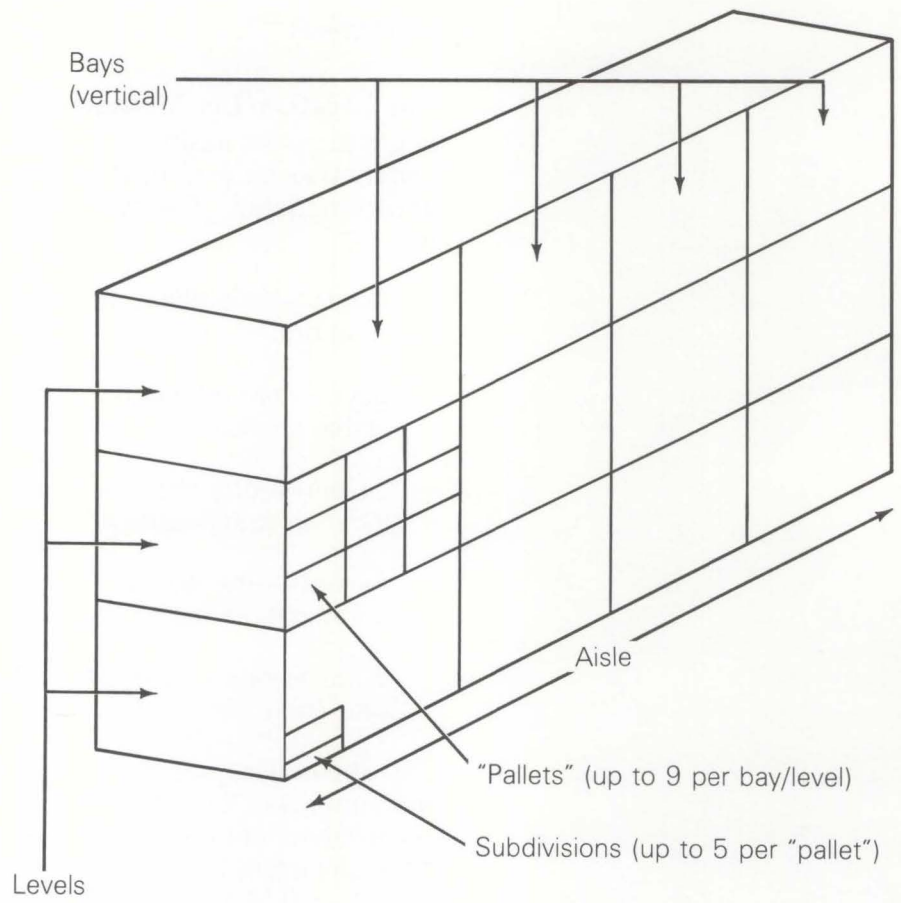
Levels

Plus bulk stores and QC area

Figure 2-5. The Location System

Building locations

The flexibility of the location system is illustrated in Figure 2-6 . In this example, the aisle (A4) has five bays. The first bay has only two levels, while the fifth (last) bay is a single level.
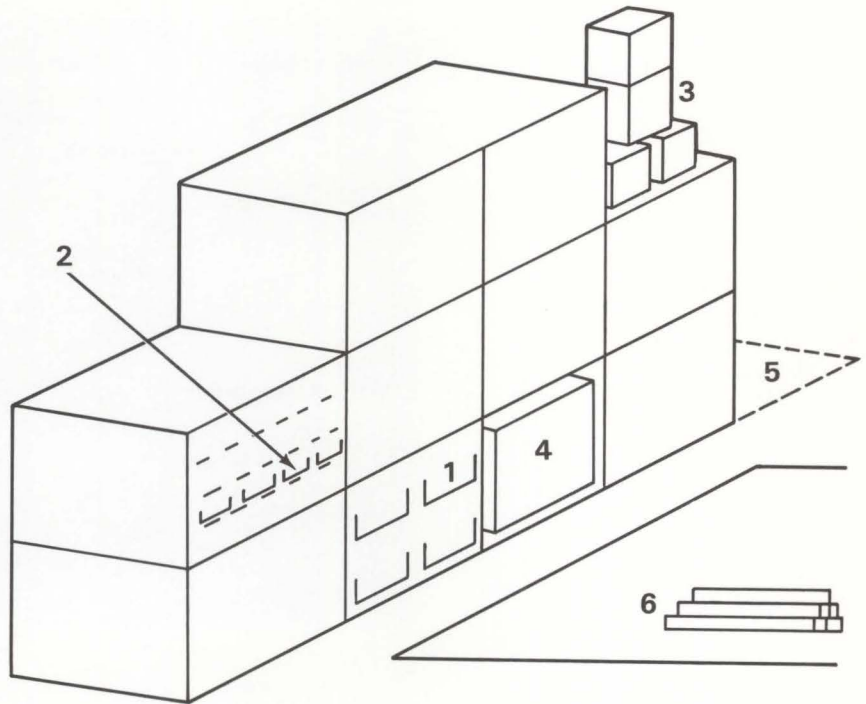
	1	2	3	4	5
AA–Aisle	A4	A4	A4	A4	A4
NN–Bay	27	26	29	28	30
A–Level	1	2	2	1	1
N–Pallet	2	2	–	–	–
A–Sub-div	–	3	–	–	–

6. Bulk store (up to 99)
    or QC area (99)

Figure 2-6. Location flexibility

Within a bay level, the user can designate up to nine pallets as the next category of location size. Within a pallet, there can be up to five subdivisions. The minimum location designation is aisle, level, with a single bay, as illustrated in the example, column 5.

It is possible, therefore, to use L/LM with:

- racking locations
- storage cabinets
- separate storerooms with shelving
- skid storage without racking.

```
DATE **/**/**                    LOCATION/LOT MANAGEMENT          SELECT      AM5CB1

                                      LOCATION DETAIL
                                     MULTIPLE LOCATIONS

                        WAREHOUSE  1                    AISLE  BP

              RANGES    BAYS             FROM   11   TO   12
                        LEVELS           FROM    1   TO    4

                        PALLETS          FROM        TO
                        SUBDIVISIONS     FROM        TO

                           ACTION  A

                                   A-ADD
                                   D-DELETE
                                   R-REACTIVATE
LAST LOCATION UPDATED


                                                       CK19 RETURN TO SELECT
                                                       CK24 DISPLAY STATUS
```

Location Master file information can be used to list the empty locations, which will help in the disposition of incoming stock and the management of warehouse space.

```
                    ABC COMPANY      LOCATION/LOT MANAGEMENT      DATE '**/**/**    TIME 16.07.32    AM5WO      PAGE   3

                                     EMPTY LOCATIONS IN WAREHOUSE 2

                                     LOCATION FROM BEGINNING TO END

          MULTIPLE                MULTIPLE                MULTIPLE                MULTIPLE                MULTIPLE                MULTIPLE
 LOCATION ITEMS/LOTS     LOCATION ITEMS/LOTS     LOCATION ITEMS/LOTS     LOCATION ITEMS/LOTS     LOCATION ITEMS/LOTS     LOCATION ITEMS/LOTS

  K301D2    Y    Y        K301D3    Y    Y        K301D4    Y    Y        K301D5    Y    Y        K301D6    Y    Y        K301D7    Y    Y
  K301D8    Y    Y        K301D9    Y    Y        Q1AA3C    N    N        Q1AA3D    N    N        Q1AA3E    N    N        Q1AA3G    N    N
  Q1AA3H    N    N        Q1AA3I    N    N        R2AAC1    N    Y        R2AAC2    N    Y        R2AAC3    N    Y        R2AAC4    N    Y
  R2AAC5    N    Y        R2AAC6    N    Y        R2AAC7    N    Y        R2AAC8    N    Y        R2AAC9    N    Y        T4025B    Y    N
  T4025C    Y    N        T4025D    Y    N        T4025E    Y    N        T4025F    Y    N        T4025G    Y    N        T4025H    Y    N
  T4025I    Y    N


          TOTAL NUMBER OF EMPTY LOCATIONS        31




                                          *** END OF PRINT ***
```

When a location is deleted, it is flagged for deletion. If empty, the location will be deleted when the file is next reorganized. If stock is still recorded as being in the location, the deletion will only take place once the stock is removed. A list of deleted locations containing stock can be used to aid in control.

```
                          ABC COMPANY     LOCATION/LOT MANAGEMENT      DATE **/**/**     TIME 15.57.14     AM5CR      PAGE   1

                                          LOCATIONS MARKED FOR DELETION

      WHSE    LOCATION     STATUS                         ITEM NUMBER      QUANTITY       BATCH/LOT     QC TYPE
       2      BB01AAA      FOR DELETION ON NEXT RUN
       2      BB01AAB      FOR DELETION ON NEXT RUN
       2      BB01AAC      FOR DELETION ON NEXT RUN
       2      DD01AAA      FOR DELETION ON NEXT RUN
       2      DD01AAB      FOR DELETION ON NEXT RUN
       2      DD01AAC      FOR DELETION ON NEXT RUN
       2      DD01AAD      FOR DELETION ON NEXT RUN
       2      DD02AAA      FOR DELETION ON NEXT RUN
       2      DD02AAB      FOR DELETION ON NEXT RUN
       2      DD02AAC      FOR DELETION ON NEXT RUN


                                          *** END OF PRINT ***
```

Transaction processing

Order allocation

The order allocation feature updates the batch/lot location files with the quantities allocated from each location. This allows a specific number of inventory stock items within a warehouse location or batch of material to be allocated for manufacturing, customer order processing, or similar purposes. The register that is printed will list the quantities allocated by location, along with FIFO date, batch/lot, and QC status.

Non-inventory transactions

The non-inventory transaction option is used to move non-inventory items in or out of stock. You may specify the item number, quantity, and location.

Quality control transactions

This option is used to change the quality control status of an item. You may enter a new status, quality control date, and FIFO date. Items can be given shelf life control, or shelf life control may be removed from an item. This option gives you another means of monitoring your quality control items.

Interfaces

The Location/Lot Management application supports the following MAPICS applications:

- Location/Lot Management supplies and updates the Inventory Management Item Master file with these additional fields: Inspection Flag for Purchased or Manufactured Items, Batch/Lot Control Indicator, Shelf Life in Days, Cumulative Yield through all operations, and Standard Batch Quantity, and updates the Item Balance quantity fields. Allocation information is supplied before pick lists are printed.
- Location/Lot Management supplies Order Entry and Invoicing with allocation and pick list information before order shipment.
- Location/Lot Management enhances Purchasing by adding batch/lot and location fields to the receiving transaction processor: location, batch/lot number, GRN number, and reject location.

Accounts Receivable

Information flow

Figure 2-7 shows how information flows through the Accounts Receivable application. The numbers in the following discussion refer to that figure.

In the Accounts Receivable transaction processing cycle, invoice summaries for invoices not produced through Order Entry and Invoicing, payments, and adjustments are entered into the system **1**; a cash receipts and adjustments journal, transaction register, and invoice register are printed. **2**.

At month-end closing, accounts are aged, and statement records are created for later printing **3**.

On request, aged trial balances, delinquency notices, paid item lists, and customer account status reports are printed **4**.

INQUIRIES

Debits, payments,
adjustments, and inquiries

AR
ACCOUNTS
RECEIVABLE

System printer

System/36

| 2 | Cash receipts/
adjustments
journal

Transaction
register

Invoice register

Transaction
processing
cycle

Cash and adjustment

| 3 | Statements

Monthly

| 4 | Aged trial
balances

Delinquency
notices

Paid item list

Customer
account status
report

On request
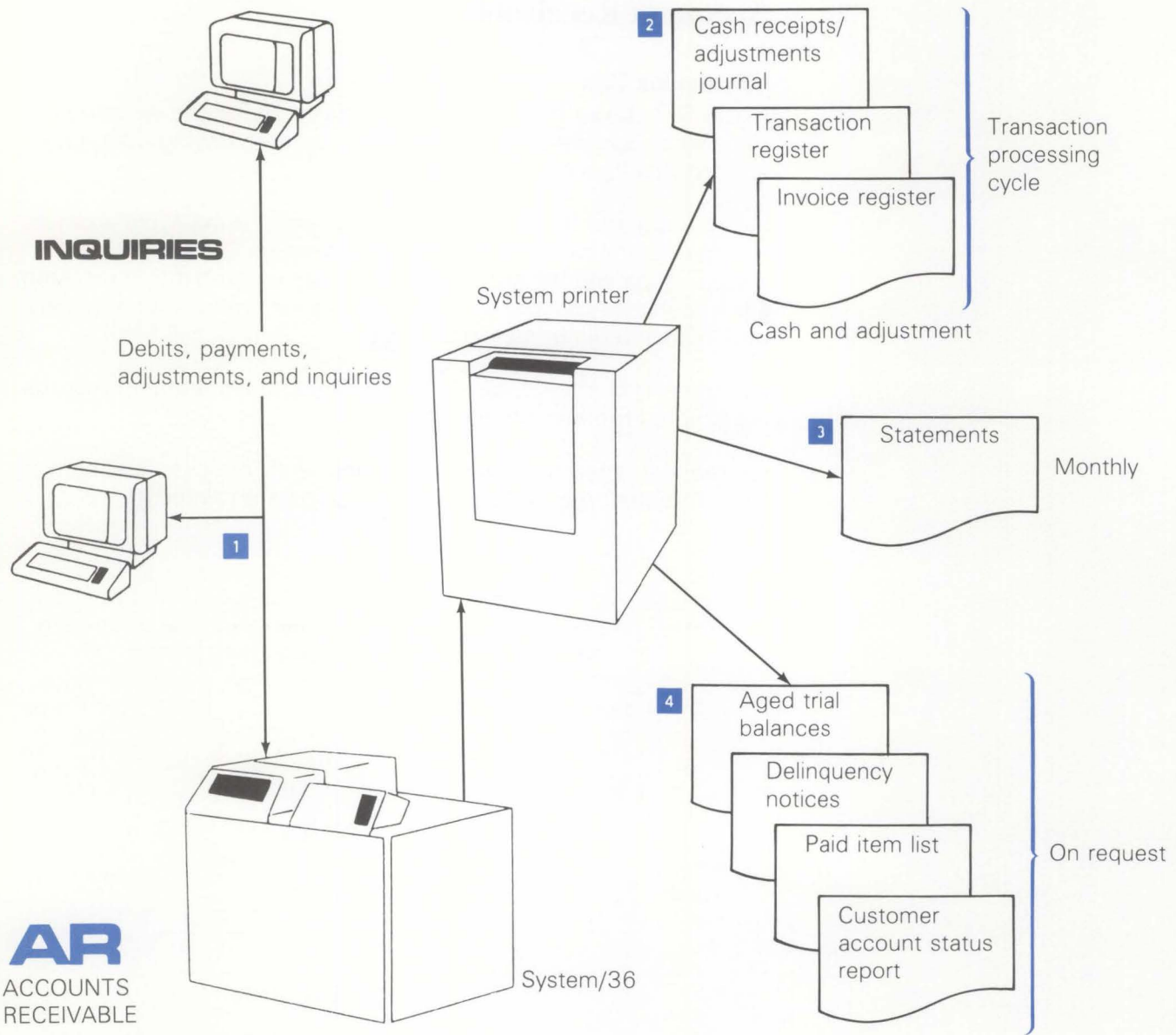
Figure 2-7. Accounts Receivable information flow

Application functions

Balance–forward/open–item accounting

Accounts Receivable supports both the balance-forward and open-item methods of receivables accounting. Furthermore, it is possible to classify some of your customers as open item and others as balance forward. Because the method of processing is controlled by a code in the customer master record, it is also possible to change a customer's classification at the end of an accounting cycle.

Open-item method. In the open-item method, the unpaid (open item) invoices are maintained as separate transactions until cleared by a cash receipt and/or adjustment transaction. Statements sent to customers show each open invoice (no matter how old it is). The system can display the unpaid invoices to help the operator in applying cash and entering adjustments to customer accounts.

Balance-forward method. In the balance-forward method, detailed transaction records are kept only for the current period and are printed on the customer's statement as in the open-item method. However, at the close of the accounting period, all transactions are summarized into the aging period amount fields. Unless an age code is entered to apply the entry to a specific age period, a debit or invoice summary is applied to the current period.

Accounts Receivable aging

The Accounts Receivable application classifies balances due in four aging periods. These are usually used to reflect monthly aging periods of 30, 60, 90, and 120 or more days.

Monthly aging. If a customer buys goods in mid-June, the charge goes into his account and is current as of the next statement date. His aged trial balance and the June 30 statement show the amount as current. After month-end close, the amount is aged into the age period 1 amount, and an aged trial balance report printed on July 1 shows the invoice amount in the age period 1 column. It retains this status until the end of July or until statements are printed, when it is then moved (rolled) into the age period 2, 60 days. This rolling of unpaid amounts continues until the amount is paid or until it reaches age period 4, which contains an accumulation of all amounts 120 or more days old.

	Current balance	Age period 1 balance (+30)	Age period 2 balance (+60)	Age period 3 balance (+90)	Age period 4 balance (+120)	Total amount due
Month-end account status before statement time (6/30/85)	$480.98	5/31/85 $120.98	4/30/85 $85.95	3/31/85 $40.48	2/28/85 $20.13	$748.52

	Current balance	Age period 1 balance (+30)	Age period 2 balance (+60)	Age period 3 balance (+90)	Age period 4 balance (+120)	Total amount due
Account status after statements	$0.00	6/30/85 $480.98	5/31/85 $120.98	4/30/85 $85.95	3/31/85 $60.61	$748.52

Future aging. Future aging is the advance dating of invoices. Under future aging, the customer is not required to pay for merchandise for several months after the goods are delivered. For example, you may want to even out the demand for seasonal items (such as toys) by extending interest-free credit to the purchaser. You can print an invoice at the time of sale (September, perhaps) showing that it will become current at some future time (such as January). If this customer has an amount due in the future, it prints on the statement following the words FUTURE AR AMT DUE. An invoice can be aged up to nine periods into the future.

Service charges

In Accounts Receivable, service charges are computed at month-end close for those customers who are designated to be assessed charges. You must show which customers are liable for service charges by entering a code in the service charge code field in the customer record. The service charges assessed are saved from the last statement period in the customer record for balance-forward customers, and in a separate service charge record for open-item customers.

The service charge percentage is stored in the customer master record and is applied to the overdue balances of the customer coded as liable for service charges. You must also indicate the service charge point (the first age period subject to late charges) as a tailoring option. You can establish a minimum service charge as a tailoring option, in which case the larger of either the minimum or calculated amount is applied. Both these figures can be changed as business conditions warrant.

A newly calculated service charge appears on each statement for both open-item and balance-forward customers. For each open-item account, the individual unpaid service charges from prior statements appear. Previous service charges for each balance-forward account have been incorporated into one or more age periods and, thus, into the total amount due; they are not tracked separately. In the service charge record, the transaction date is the same as the statement date of the statement on which it first appeared. If you elect to age service charges, the system ages the service charge each month until it is cleared. Service charges that remain unpaid are included in the amount subject to further late charges, and eventually are consolidated into one service charge amount in the oldest aging period.

Note: The system can actually compound service charges. Such charges must, under certain laws, be considered finance charges and, as such, are limited in their scope of usage. It is your responsibility to evaluate all laws to which compliance is required, and to determine the applicability of the service charge method, its limits, and disclosure requirements.

Credit limit checking

Each customer has his own assigned credit limit. As invoice summaries are entered into the system, the application displays the current Accounts Receivable balance, the credit limit assigned, and displays EXCEEDED for those customers who have gone over their assigned credit limit.

On–demand aged trial balance for management review

You can print the aged trial balance without updating the customer records; this makes it possible for you to analyze the effect of aging the accounts at any time during the accounts receivable cycle. The actual aging process occurs during the month-end closing procedure.

Statement printing

During the month-end closing procedure, a statement file is created for those customers coded to receive statements. The statements can then be printed at any time: by company number, range of customers, only those with past due balances, only those considered delinquent, or all customers in the file who have not been printed.

Multiple statements for consolidated companies

The application uses the last two digits of the customer number to identify subsidiaries of a consolidated company. Statements are prepared for each subsidiary, but are addressed to the headquarters location. A consolidated statement, showing total amounts due, is also prepared for the headquarters location. If you service contractors, this feature can also be used for contractor job accounting, treating the contractor customer as a headquarters and each of his individual contract jobs as a subsidiary.

Multicompany support

The Accounts Receivable application is designed to support up to 20 separate companies for reporting purposes. Totals by company are available on the aged trial balance and the cash receipts and adjustments journal. As noted earlier, statements can be selected by company number.

Offline diskette entry

The Accounts Receivable application is designed to operate in an interactive mode. However, because of peak load requirements or off-site manual invoicing, you may require diskette entry of invoice summary records. You can record invoice summary records on an offline diskette entry system.

The summary records entered from diskette are processed in a batch environment for editing purposes. The diskette data is transferred to the IBM System/36, and a batch edit is performed. Error correction is handled either by the diskette entry system or through a work station. Once the entries are error free, they can be used to update the master files.

The diskette entry function in Accounts Receivable provides the same level of function as the interactive invoice summary entry. No provision is made for entry of cash or adjustments through diskette. Also, master file maintenance must be performed at a work station.

Operations

All operations for the Accounts Receivable application start with the main menu. This menu provides flexibility in selecting the job to be performed.

```
COMMAND                          MENU: AMRM00                           X6
                    A C C O U N T S   R E C E I V A B L E
                              MAIN MENU

                    1 TRANSACTION PROCESSING
                    2 MONTH END CLOSING
                    3 STATEMENTS
                    4 DELINQUENCY NOTICES
                    5 AGED TRIAL BALANCE
                    6 CUSTOMER INQUIRY
                    7 MASTER FILE PROCESSING

                    8 RETURN TO APPLICATION SELECTION MENU




Ready for option number or command
```

Security coding, if established, interacts with the main menu and subsequent operations to ensure that only those individuals designated to have access to specific data are permitted to continue processing.

Entering cash, miscellaneous, and adjustment transactions

Cash application: When cash and adjustments are processed, the operator enters the customer number, and the system displays the customer name and address for verification. The operator then enters the cash receipt transaction.

The reference field (REF) determines the method of cash application for this particular receipt. Three entry methods are available, based on information entered in the reference field:

- Operator enters ALL—the system compares the GROSS RECVD to the total due field from the customer master record. If they are equal, no further operator action is required. The application distributes the cash received to each unpaid item in the detail file. The operator can then go to the next cash receipt transaction.
- Operator enters a specific invoice number—the system searches the detail file for the referenced invoice and when found, verifies that the GROSS RECVD entered equals the invoice amount. If so, the cash is applied to the invoice, and the operator proceeds to the next cash receipt transaction.

```
DATE 08/31/**                                              ENTER      AMR 203  04
                              CASH RECEIPT ENTRY

COMPANY    1                  APPOLLO SUPPLY CO.           OPEN ITEM
CUSTOMER      100             625 WEST OGLETHORPE AVE.
                             ATLANTA
                                                          STATE GA  ZIP 30301

SERVICE CHGS -          47.57           CURRENT   -          47.57
    CURR CHGS -           .00           30 DAY    -           .00
    CURR PMTS -           .00           60 DAY    -           .00
    CURR ADJS -           .00           90 DAY    -           .00
     FUT DUE  -           .00           120 DAY   -       3,171.54
       TOTAL DUE -    3,219.11     CREDIT LIMIT-           0  EXCEEDED

CASH RECVD(2)  DISCOUNT(2)  GROSS RECVD(2)  DATE   REF    CHECK   DEPOSIT  SLSMN
     15129         2500         17629       0827**         16332     203 31701




                                                          CK08 ENTER CUSTOMER
```

■ Operator leaves the reference field blank—this method is most likely used, since the customer might pay several invoices with one check, but not pay off the entire balance due. Under this method, the system displays the five oldest items outstanding for this customer. After transaction posting is completed for the first five open items, the system selects the next five open items and so on until the transaction is complete. These items are invoices and service charges for open-item customers. For balance-forward customers, one line is displayed for each age period containing a balance.

1 Operator enters the line number (from those above selected for payment) and the payment code

2 Amount entries are required with these codes

3 Keeps track of cash left to be applied

```
DATE 08/31/**                    ADJUSTMENT  POSTING              ENTER     AMR205  WO

COMPANY   1
CUSTOMER      100           APPOLLO SUPPLY CO.            OPEN ITEM

GROSS RECVD  DISCOUNT  ADJUST  LINE REF      AMT DUE     ORIGINAL DUE  DISC ALLW
                                     DATE                DR/CR TO DATE DISC PCT
                               1 085225      176.29          176.29      25.00
                                 09/01/**                                2.000
                               2 085664      186.09          861.09      25.00
                                 09/29/**                                2.000
                               3 086669      800.31          800.31      25.00
                                 08/09/**                                2.000
                               4 086671      266.77          266.77      25.00
                                 08/11/**                                2.000
     1
                              -END OF DETAIL-
LINE CODE GROSS RECVD(2)  DISCOUNT(2)  ADJUSTMENT(2)  CASH UNAPPLIED   REF. NO.
 1    1                                                   151.29   3
          1     FULL PAY WITH DISCOUNT                               AGE CODE
          2     FULL PAY WITHOUT DISCOUNT
          3     PARTIAL PAY WITH DISCOUNT      2          CK04 END OF TRANS.
          4     PARTIAL PAY WITHOUT DISCOUNT              CK05 RE-APPLY TRANS.
          5     ADJUSTMENT ONLY                           CK06 RE-ENTER RECPT.
```

This method of cash application allows the operator to adjust or "write off" minor discrepancies in each invoice, or to apply partial payments against an invoice.

```
DATE 08/31/**              ADJUSTMENT  POSTING          ENTER      AMR205  W1

COMPANY   1
CUSTOMER     100         APPOLLO SUPPLY CO.          OPEN ITEM

GROSS RECVD  DISCOUNT  ADJUST  LINE REF        AMT DUE     ORIGINAL DUE  DISC ALLW
                                     DATE                  DR/CR TO DATE DISC PCT
  176.29      25.00            1 085225        176.29         176.29       25.00
     3 - FULL-DISC                    09/01/**                             2.000
                               2 085664        186.09         861.09       25.00
                                     09/29/**                             2.000
                               3 086669        800.31         800.31       25.00
                                     08/09/**                             2.000
                               4 086671        266.77         266.77       25.00
                                     08/11/**                             2.000

                      -END OF DETAIL-
LINE CODE GROSS RECVD(2)  DISCOUNT(2)  ADJUSTMENT(2)   ADJ UNAPPLIED   REF. NO.
                                                          .00
   1     FULL PAY WITH DISCOUNT                                        AGE CODE
   2     FULL PAY WITHOUT DISCOUNT
   3     PARTIAL PAY WITH DISCOUNT                       CK04 END OF TRANS.
   4     PARTIAL PAY WITHOUT DISCOUNT                    CK05 RE-APPLY TRANS.
   5     ADJUSMENT ONLY                                  CK06 RE-ENTER RECPT.
```

Actual updating of the detail and master file is not accomplished until the operator has fully applied the amount received and notified the system that this cash entry for this customer is complete. If a condition occurs where the operator wishes to either reenter the cash transaction, therefore starting the detail application again, or just to restart applying the cash to an individual item, the process can be done before ending the transaction. When the operator elects to reapply the transaction, the previous entries are shown so that only changes need to be made. Any application that was and still is correct does not need to be reentered.

Adjustment application: This feature allows the operator to process adjustment entries against the customer's account. The flow of processing is similar to the application of cash. As the entry is made, it is first verified and then applied to the referenced item in the detail file.

At the end of cash receipt and adjustment posting, a display shows the control totals for the data just entered.

Miscellaneous cash receipts application: This feature allows the operator to process cash receipts that are not to be credited to a customer's account. These non-Accounts Receivable cash receipts are posted to the general ledger, similar to general journal entries.

Entering invoice summaries

Invoice summary records are required only for invoices not processed through the Order Entry and Invoicing application. The invoice summary entry verifies the customer number before accepting the transaction. This entry allows the operator to enter a credit memo and apply it directly to a particular invoice for that customer.

```
DATE 08/27/**                                                ENTER      AMR153  W1
                                    INVOICE ENTRY

COMPANY   1                      APPOLLO SUPPLY CO.           OPEN ITEM
CUSTOMER      100                625 WEST OGLETHORPE AVE.
                                 ATLANTA
                                             STATE GA  ZIP 30301

INV/CR MEMO   DATE
   100      0827**

INV AMT(2)   AGE CD   SALE CD     TAX 1(2)    TAX 2(2)    TAX 3(2)   TAX 4(2)
  28450        0        R           600                     400

DISC ALLD(2)   NET SALES(2)   SPC CHG(2)  FRT CHG(2)  TRADE DISC(2)  INV COST(2)
    272          26250                       1200                      23000
                                                             CK01 RESUME ENTRY
SALESMAN     WEIGHT(1)   INV REF    CLOSINGS TILL CURRENT   CK02 PAGE FORWARD
 31701                                       N              CK03 PAGE BACKWARD
                                                             CK05 PAGE FORWARD 5
                                                             CK08 ENTER CUSTOMER
                                                             CK17 ACCEPT W/ ERROR
                                                             CK20 DELETE RECORD
                                                             CK24 DISPLAY STATUS
```

Printing transaction registers

The operator selects the batches of entered transactions (both cash/adjustment and invoice summaries) that are to be processed for the transaction registers. It is at this point that the invoice summary data is added to the master file and the detail file.

An A/R cash receipts and adjustments transaction register is printed for each batch of cash and adjustment transactions. In addition, an individual line is printed detailing the affected invoices. The batch total balances are also printed.

```
                              A/R CASH RECEIPT AND ADJUSTMENT                          DATE  3/29/**  TIME 14.16.40  PAGE   1  AMR401
                                    TRANSACTION REGISTER                                                           BATCH  11

    DEPOSIT   CHECK/  CO/CUST   NAME                        SLSMN   TRAN  A/R AMOUNT  DISCOUNT        CASH         ADJUSTMENT      CREDIT
      NO      ADJ NO  NO                                      NO    TYPE              AMOUNT          AMOUNT        AMOUNT         AMOUNT
    -REF-     -DATE-  -A/R-         -DISC-      -CASH-      ADJUSTMENT                (ORIDE G/L)   (ORIDE G/L)   (ORIDE G/L)   (ORIDE G/L)

        98     1126   1             POP MACHINE                                                       13.35                        13.35
             3/29/**

        98     1542   100001400 LAKESIDE IMPLEMENTS        31702     6    375.00-      20.00         355.00            .00
    SUMMARY  3/29/**     375.00-    20.00     355.00                .00
      84311  3/29/**      10.00-      .00      10.00                .00
      86672  3/29/**     355.00-    10.00     345.00                .00        *
      86686  3/29/**      10.00-    10.00        .00                .00

        98   226487   1             REBATE                                                            25.00                        25.00
             3/29/**

        98    22568   100001700 PHILLIPS & SONS            31709     6    625.00-        .00         625.00            .00
    SUMMARY  3/29/**     625.00-      .00     625.00                .00
```

```
                              A/R CASH RECEIPT AND ADJUSTMENT                          DATE  3/29/**  TIME 14.16.40  PAGE   3  AMR401
                                    TRANSACTION REGISTER

        FINAL TOTALS

    TRANSACTION TOTALS              COUNT          * DISCOUNT EXCEEDED-   2

    MISC CASH RECVD     38.35          2

    A/R CREDITS      2,494.31-        11

      DISCOUNTS         40.00

      ADJUSTMENTS         .00

      APP CASH       2,454.31

      UNAPP CASH         .00

    ADJUSTMENT          76.00          7

      APP ADJ          76.00

      UNAPP ADJ          .00

    TOTAL APPLIED    2,418.31-        18

      TOTAL ADJ        76.00

    TOTAL CASH       2,492.66
```

The invoice register lists each new invoice summary entered and provides totals for items such as net sales, taxes added, freight, special charges, and invoice cost.

Cash and COD invoice summaries are printed on the register, but are not added to the master or detail files. If Sales Analysis is installed, all sales information is passed for all new invoice summary records.

```
                                    INVOICE REGISTER-ACCOUNTS RECEIVABLE              DATE  4/13/**  TIME 10.13.55  PAGE    1  AMV451

                NAME              SLSMAN NO.  INV. DATE   CLOSES CURR   SALES CO
        INV/CM           CO-CUST                SALES      SPECIAL      FREIGHT      DISCOUNT          TOTAL      INVOICE      INVOICE  PROFIT
        NO.              NUMBER                 AMOUNT      CHG/CR                                     TAXES       TOTAL       PROFITS  PERCNT

        APPOLLO SUPPLY CO.          31701      4/13/**        0           R
          200           01-00000100             580.00      .00          .00        .00              .00        580.00       580.00   100.0

        APPOLLO SUPPLY CO.          31701      4/13/**        0           R
          201           01-00000100             500.00      .00          .00        .00              .00        500.00       500.00   100.0

        APPOLLO SUPPLY CO.          31701      4/13/**        0           R
          203           01-00000100           1,011.00      .00          .00        .00              .00      1,011.00     1,011.00   100.0

        ABC SUPPLY CO.              31701      4/13/**        0           R
```

```
                                    INVOICE REGISTER-ACCOUNTS RECEIVABLE              DATE  4/13/**  TIME 10.13.55  PAGE    3  AMV451

        FINAL     TOTALS    A/R       COUNT
        FUT. AR  -          .00
        SALES    -       6,996.00
        SPECIAL  -          .00
        FREIGHT  -          .00
        DISCOUNT-          .00
        TAX 1    -          .00
        TAX 2    -          .00
        TAX 3    -          .00
        TAX 4    -          .00
        INVOICES-        6,996.00
        INV.COST-          .00
        GROSS PROFIT:
          AMOUNT-        6,996.00
          PERCNT-         100.0
        CASH/COD-          .00
```

Taking a trial balance

Before you print your statements each month, you can take a trial balance on your accounts for audit purposes. The aged trial balance contains descriptive information on each customer, such as name, address, and telephone number. It also lists current amount, total amount due, future amount, and amounts due in age periods 1 through 4 (open-item accounts show each open item, regardless of age), and service charges. The amounts are listed by customer and totaled at the end of the report.

The operator can select from several formats (run-time options) to provide you with an aged trial balance specifically suited to your needs.


```
ARMAX COMPANY 1    NO.  1                    AGED TRIAL BALANCE REPORT        DATE  8/31/**  TIME  9.49.14  PAGE    1  AMR021

        ALL CUSTOMERS                                                        AGED AS OF CURRENT STATEMENT-SINGLE LINE

                             FUTURE A/R       TOTAL DUE       CURRENT        OVER 30       OVER 60       OVER 90      OVER 120

        100 APPOLLO SUPPLY CO.          .00      3,171.54        .00           .00           .00       1,037.38      2,134.16
        200 AL'S CLEANING SERVICE    328.37      2,626.96        .00       2,298.59          .00           .00          .00
        300 AMERICAN WOOD PRESERVING    .00      2,488.53        .00       2,488.53          .00           .00          .00
        400 BICKERS & WHITE             .00      2,922.20        .00         172.50      2,749.70          .00          .00
        500 BRANCH EQUIPMENT CO.        .00      5,541.01        .00       5,541.01          .00           .00          .00
        600 CAMERON COMPANY             .00        913.20        .00         913.20          .00           .00          .00
        700 CRANE, OVERTON, & CULVER    .00      1,788.00        .00       1,788.00          .00           .00          .00
        800 DEKALB CHEMICAL CO.         .00     11,815.91        .00      11,815.91          .00           .00          .00
        900 FLYNN INDUSTRIAL SUPPLY     .00      4,290.50        .00       1,717.17        20.00       2,553.33          .00
       1000 FOREMOST, MACHINE SHOP      .00      5,405.06        .00       2,049.01      2,893.90        461.55          .00
       1100 GORDON'S PRINT SHOP         .00      3,155.77        .00       2,896.40       259.37          .00          .00
       1200 JACKSON & MEYERS CO.        .00          .00         .00           .00           .00           .00          .00
       1300 JONES STEEL SUPPLY          .00        338.60        .00         338.00          .00           .00          .00
       1400 LAKESIDE IMPLEMENT          .00      1,824.39        .00       1,060.50          .00           .00        763.89
       1500 MCMILLAN, TURNER            .00      4,120.59        .00           .00       2,129.11      1,991.48          .00
       1600 MEEHAN MANUFACTURING        .00      1,098.73        .00           .00       1,098.73          .00          .00
       1700 PHILLIPS & SONS             .00     15,182.39        .00      12,319.45          .00           .00      2,862.94
       1800 POOLE HARDWARE              .00      4,721.96        .00           .00       3,553.70      1,158.26          .00
       1900 QUAKER STATE SERVICE INC.   .00        998.10        .00         998.10          .00           .00          .00
       2000 SHARPE STEEL                .00      2,436.65        .00       2,436.65          .00           .00          .00
       2100 SOUTHSIDE WELDING &         .00      7,845.40        .00           .00       2,718.10      5,127.30          .00
       2200 STEVENS BUILDING SUPPLY     .00      3,819.71        .00         482.16      3,337.55          .00          .00
       2300 TARA SUPPLY COMPANY         .00      1,253.88        .00         231.80      1,022.08          .00          .00
       2400 THOMAS, INC.                .00      5,076.13        .00       5,076.13          .00           .00          .00
       2500 WELTON INDUSTRIES           .00      3,388.06        .00       3,388.06          .00           .00          .00
       2600 WINSTON,PARK INC.           .00      3,684.84        .00       3,684.84          .00           .00          .00
       2700 YATES BROS. CO.             .00      1,747.12        .00       1,747.12          .00           .00          .00
```

```
ARMAX COMPANY 1   COMPANY NO. 01 TOTALS        AGED TRIAL BALANCE REPORT        DATE  8/31/**  TIME  9.49.14  PAGE    2  AMR021

        PREV BAL            CURR CHGS            CURR PMTS          CURR ADJMNTS           TOTAL DUE      FUTURE A/R DUE

       112,754.24               .00             11,096.21              .00               101,658.03          328.37

     CURRENT AMOUNT           OVER 30            OVER 60             OVER 90             OVER 120          LATE CHGS

           .00             63,447.13           19,792.24          12,329.30            5,760.94              .00

   UNAPPLIED PAYMENTS-         .00    UNAPPLIED ADJUSTMENTS-          .00
```

The report can be printed:

- With the aging periods current or projected as of the next accounting period
- In summary (totals by age period) or in detail (each item)
- All customers (with or without a balance)
- Only customers with balances (a minimum amount can be specified)
- Only customers with past-due balances (a minimum amount can be specified)
- Only customers with delinquent balances.

Additionally, by using the range printing feature, you can receive a separate aged trial balance on certain groups of customers. For example, if you have two operators handling receivables collections, one of them can call for a report of the first 1000 customers, and the other can call for a report of the last 1000. If the aged trial balance covers the same range of customers as the statements you are going to print, the trial balance totals will agree with the control totals generated during statement printing.

With this flexibility in printing, the aged trial balance can be run as frequently as necessary to help you maintain tight control over an important asset—accounts receivable.

Purging open items and printing the paid open item proof

Open-item customers can be coded so that fully paid transactions are purged on request or only at month end, so they appear on the customer statements.

The paid open-item proof can be printed on request showing all open items that have been cleared by payments or adjustments.

```
COMPANY NO 2    NO. 02              PAID OPEN-ITEM PROOF              DATE  9/01/**  TIME 10.45.27  PA_    . . . . .

        CUSTOMER  INVOICE   TYPE  DATE      A/R      DISCOUNT    AMOUNT     ADJUSTMENT
        NUMBER    NUMBER                    AMOUNT              RECEIVED    NUMBER
  PAGE    2800   84760      1    11/22/**   382.04
  PAGE    2800   PAYMNT     2     9/01/**   382.04-    20.00    362.04
  PAGE    2800   84819      1    11/29/**      .37
  PAGE    2800   ADJMNT     3     9/01/**      .37-                         ADJG09
  PAGE    2800   84821      1    11/29/**   44.00.00
  PAGE    28J0CH  2821      1     9/01/**   103.00-
  PAGE    2800   PAYMNT     2     9/01/ *   44000.00-    .00   44000.00

  COMPANY PURGED AR TOTAL           44303.01
```

```
COMPANY 02 TOTALS

                     *  BALANCE FORWARD   *     OPEN ITEM      *      TOTAL     *
                        COUNT    AMOUNT      COUNT    AMOUNT      COUNT    AMOUNT
  FUTURE AR DUE -       0         .00        0         .00        0         .00
  BALANCE FORWARD -     1       1,853.08                          1       1,853.08
  SERVICE CHARGES -     0         .00        0         .00        0         .00
  INVOICES -            0         .00       11      12,728.93     11      12,728.93    TOTAL CASH DISCOUNT ALLOWED -        24,000
  PAYMENTS -            0         .00        2      44,382.04-     2      44,382.04-
  ADJUSTMENTS -         0         .00        2         589.70      2         589.70
  ACTIVE ACCOUNTS -     1       1,853.08     2       8,935.49      3      10,789.37
  RECORDS PURGED -      ?
```

Month-end closing

This procedure ages master and detail records; calculates service charges for customers coded to receive service charges; creates a data file from which statements are printed; and finally, eliminates all fully paid items from the detail file. The operator can run month-end closing for all companies in a single run or can close selectively to fit each company's month-end time schedule.

During this procedure, the operator can select the various control totals, record counts, and listings to be printed.

Printing statements

Statements serve two important purposes: they can speed payment collection by reminding the customer of amounts due, and they help maintain customer goodwill by providing an accurate picture of the customer's transactions.

The application produces statements for customers coded to receive them. These statements include any service charges applied to the account. For customer records coded as no-statement accounts (those who usually pay by invoice and prefer not to receive statements), statement printing is bypassed.

Statements can be printed any time after month-end closing and before the next period close. You can elect to print all statements at one time or selectively within limits by customer number; or if you selected multicompany support, you can print by company number.

A tailoring option permits you to suppress printing of statements for those customers with a zero balance, even if the customer had activity during the current period.

Printing delinquency notices

Your operator can run delinquency notices whenever necessary. Depending on the delinquency point (age period), the amount delinquent can be the age period 4 amount only, or a total of the amounts in all age periods equal to, or older than, the delinquency point you specified.

```
                                    ┌─────────────┐
                                    │    DATE     │
                                    │  8/31/**    │
                                    └─────────────┘

                                            ┌─────────────┐
                                            │  CUSTOMER   │
                                            │   NUMBER    │
    ┌APPOLLO SUPPLY CO.        ┐  1 │   100   │
     625 WEST OGLETHORPE AVE.
     ATLANTA                      GA   30301
    └                          ┘

    ┌────────────┬────────────┬────────────┐
    │  CURRENT   │  PAST 30   │  PAST 60   │
    │     .00    │     .00    │     .00    │
    ├────────────┼────────────┼────────────┤
    │  PAST 90   │  PAST 120  │ TOTAL DUE  │
    │  1,037.38  │  2,134.16  │  3,171.54  │
    └────────────┴────────────┴────────────┘

         ┌──────────────────┬────────────┐
         │ DELINQUENT AMOUNT - │ 3,171.54 │
         └──────────────────┴────────────┘
```

Printing the customer account status report

The operator can request an account status report (for selected customers) at any time. This report provides the current status of a specific customer, showing payments, current balance, total amount due, and aged amounts due. For open-item customers, the report shows detail for all open items, so that you have a record of the invoices to which unidentified cash has been applied. For invoices that are partially paid, the report shows the original amount due, the payment amount, and the amount still open or outstanding.

Inquiry

The Accounts Receivable application provides inquiry into a customer's data files at any time.

This request allows the operator to enter a customer number and receive from the system the customer master data and the unpaid total from the detail file. The operator can go from customer to customer without restarting the procedure.

```
DATE 08/16/**          A/R INQUIRY - OPEN ITEM          SUMMARY    AMR902  V1

COMPANY  01            BICKERS & WHITE              PHONE 781-341-6658
CUSTOMER 00000400      8800 EAST 63RD ST.          STMT CD 0 SALESMAN
LINE     N             LOS ANGELES                 SVC CD 1  SVC PCT    015
                                                   LAST PAYMENT -  00/00/**
                       CA 64133
SRVC CHGS -      41.24 CURRENT -          41.24 FUTURE DUE   -
CURR CHGS -            30 DAY  -                CREDIT LIMIT -
CURR PMTS -            60 DAY  -         172.50              EXCEEDED
CURR ADJS -            90 DAY  -       2,749.70 DETAIL TOTAL -
PREV BAL  -           120 DAY  -                  TOTAL DUE  -
                                     DR/CR   DISCOUNT      A/R     DATE LAST
LINE REF NO   DATE    TRAN AMT      TO DATE   TAKEN     AMT DUE  ACTIVITY
 1   084955 10/06/**    887.09        .00      .00      887.05 10/06/**
 2   085079 10/13/**  1,862.65        .00      .00    1,862.65 10/13/**
 3   084731 11/21/**    172.50        .00      .00      172.50 11/21/**
 4   SVCCHG 01/01/**     41.24        .00      .00       41.24 01/01/**
 5
 6
 7
 8
    ---END OF DETAIL---

                                                       CK24 END OF INQUIRY
```

Interfaces

The Accounts Receivable application interfaces with the following other MAPICS applications, if they are installed:

- The Order Entry and Invoicing application uses Accounts Receivable data for credit limit checking. Order Entry and Invoicing also provides summary information for each invoice or credit memo processed.
- The Sales Analysis application receives from Accounts Receivable the customer and salesman sales information for those invoice summary records entered directly into Accounts Receivable.
- Accounts Receivable also provides information to the General Ledger application related to cash and adjustment entries, and service charges.

Sales Analysis

Information flow

Figure 2-8 shows how information flows through the Sales Analysis application. The numbers in the following discussion refer to that figure.

At month end, sales statistics are printed in reports showing customer, item, and salesman performance **1**.

On request, a series of reports are available for customers, items, and salesmen showing current period and year-to-date information. Additionally, current period-to-date information is available for customers and items **2**.

OEI
ORDER ENTRY
AND INVOICING

AR
ACCOUNTS
RECEIVABLE

IM
INVENTORY
MANAGEMENT

INQUIRIES

System/36

System printer

2 Profit analysis by item
   Sales analysis by item
   Sales analysis by customer
   Sales analysis by item class
   Sales analysis by customer class
   Interim item analysis reports
   Interim customer sales reports
   Profit analysis by customer
   Profit analysis by salesman
   Sales analysis by salesman

SA
SALES
ANALYSIS

1 Sales analysis by item
   Sales analysis by customer
   Sales analysis by salesman
   Master file totals

Optional

Period or month closing

Figure 2-8. Sales Analysis information flow

Application functions

12-month or 13-period processing
The Sales Analysis application provides for either 12-month or 13-period processing. The selection is based on your methods of accounting. If Order Entry and Invoicing is installed, it controls when a period change takes place; otherwise, Sales Analysis controls the posting period in the system.

Report selections
When you install the Sales Analysis application, the tailoring option allows you to require the printing of the sales analysis by item, by customer, and/or by salesman at period close. If no selection is made, only master file totals for salesman, customer, and item will print when the Sales Analysis application is closed for a period.

A tailoring option permits you to select whether to print items which have had no current sales activity.

Receipt of data
The Sales Analysis application automatically receives data from its interfacing applications, if installed. At least one of these applications must be installed.

Operations

Profit analysis by item

The primary purpose of this report is to analyze the profitability of specific items. The report can help determine trends associated with items and classes of items. It is printed in item number within item class sequence. You can print all or a range of items within a class or item classes.

```
    NORTHCREEK IND.    NO. 01              PROFIT ANALYSIS BY ITEM                DATE  2/10/**  TIME 15.15.33  PAGE    1  AMS22
                                           FOR PERIOD 2  PTD/YTD

                  *-------------- QUANTITIES ---------------*     *---- PROFIT ----*   *-------- AMOUNT ---------*   *-------- PROFIT ------*
      ITEM     SOLD       LOST       SOLD       LOST       G.P.AMT    PCT      SALES        COST         G.P.AMT    PCT   PCT
    CL NUMBER  P-T-D      P-T-D      Y-T-D      Y-T-D      P-T-D      P-T-D    Y-T-D        Y-T-D        Y-T-D      Y-T-D L.YR

    20 0499001            SPRAY UNIT
                 37         2          107        6          621.84   47.1    4,960.50     2,531.34     2,429.16   49.0  45.7
    20 1203385            WRENCH
                 40         2          110        8          518.22   50.4    4,667.53     2,027.38     2,640.15   56.6  45.7
    20 1403424            TREADLE ASSEMBL
                 70         0          210        1          407.74   50.0    2,447.65     1,225.01     1,222.64   50.0  55.5
    CLASS
    TOTALS      147        4          427        15         1,547.80  48.9    12,075.68    5,783.73     6,291.95   52.1

    70 3203591-12         WHEEL 18 IN DIA
                 35         2          105        8          66.20    66.6    284.90       132.60       152.30     53.5  51.7
    70 3333480-A          CONTROL BOX
                 17         2          52         5          100.49   31.2    876.48       621.38       255.10     29.1  39.9
    70 3427005-A          PUMPING UNIT
                 35         0          105        1          20.09    22.3    275.62       190.39       85.23      30.9  51.7
    CLASS
    TOTALS      87         4          262        14         186.78    36.5    1,437.00     944.37       492.63     34.3

    80 0203591-08         WHEEL 8 IN DIA
                 10         1          39         5          15.08    50.0    108.04       48.79        59.25      54.8  51.6
    80 0534250-A          TANK COVER ASSM
                 83         0          209        1          11.25    10.7    357.55       206.80       150.75     42.2  49.9
    80 0603591-12         WHEEL 18 IN DIA
                 10         1          45         4          2.64     26.7    35.46        24.43        11.03      31.1  51.8
    CLASS
    TOTALS      103        2          293        10         28.97     20.0    501.05       280.02       221.03     44.1

    FINAL
    TOTALS      337        10         962        39         1,763.55  46.2    14,013.73    7,008.12     7,005.61   50.0

    OPTIONS CHOSEN

        ALL ITEM NUMBERS
```

Sales analysis by item

This report compares present activity for an item with the previous year's activity. It can aid in determining demand pattern changes, so that sales emphasis can be affected or inventory levels can be altered. This report can be printed with the same options as the profit analysis by item report.

```
NORTHCREEK IND.    NO. 01              SALES ANALYSIS BY ITEM                    DATE  2/10/**  TIME 15.15.25  PAGE    1  AMS22
                                       FOR PERIOD 2  PTD/YTD

             *---- P-T-D QUANTITY ----*  *------- P-T-D AMOUNTS -------*  *---- Y-T-D QUANTITY ----*  *------- Y-T-D AMOUNTS -------*
             THIS      LAST   PCT          THIS       LAST   PCT           THIS      LAST   PCT         THIS         LAST   PCT
  CL ITEM NO. YEAR      YEAR   DIFF         YEAR       YEAR   DIFF          YEAR      YEAR   DIFF        YEAR         YEAR   DIFF
  20 0499001          SPRAY UNIT
                37        30   23.3      1,320.31   1,060.16  24.5         107      1,006   89.4-       4,960.50    57,949.88  91.4-
  20 1203385          WRENCH
                40        30   33.3      1,027.34   1,060.16   3.1-        110      1,101   90.0-       4,667.53    57,799.79  91.9-
  20 1403424          TREADLE ASSEMBL
                70        60   16.7        815.25     699.20  16.6         210      1,990   89.4-       2,447.65    27,221.34  91.0-

  CLASS       147              22.5                2,819.52                427              89.6-                   142,971.01
  TOTALS               120              3,162.90              12.2                 4,097            12,075.68                 91.6-

  70 3203591-12       WHEEL 18 IN DIA
                35        30   16.7         99.40      79.66  24.8         105      1,108   90.5-         284.90     2,891.99  90.1-
  70 3333480-A        CONTROL BOX
                17        15   13.3        322.13     235.41  36.8          52        550   90.5-         876.48     8,918.60  90.2-
  70 3427005-A        PUMPING UNIT
                35        30   16.7         90.12      79.00  14.1         105      1,108   90.5-         275.62     1,286.97  78.6-

  CLASS        87              16.0                  394.07                262              90.5-                    13,097.56
  TOTALS                75                511.65              29.8                 2,766             1,437.00                 89.0-

  80 0203591-08       WHEEL 8 IN DIA
                10        12   16.7-        30.13      33.78  10.8-         39        466   91.6-         108.04     1,230.11  91.2-
  80 0534250-A        TANK COVER ASSM
                83        54   53.7        105.12     108.36   3.0-        209      1,994   89.5-         357.55     3,978.71  91.0-
  80 0603591-12       WHEEL 18 IN DIA
                10        15   33.3-         9.87      10.84   8.9-         45        538   91.6-          35.46       414.08  91.4-

  CLASS       103              27.2                  152.98                293              90.2-                     5,622.90
  TOTALS                81                145.12               5.1-                2,998               501.05                 91.1-

  FINAL       337              22.1                3,366.57                982              90.0-                   161,691.47
  TOTALS               276              3,819.67              13.5                 9,861            14,013.73                 91.3-

  OPTIONS CHOSEN

      ALL ITEM NUMBERS
```

Sales analysis by item class

This report contains the same information as the sales analysis by item report, except that individual item data is not shown. The report prints one line per item class selected, showing the comparative information.

Interim item analysis reports

Three reports are available on demand to show the current period activity:

- Profit analysis by item—lists all items or a selected range of items or classes and shows sales volume in quantity and amounts, cost and gross profit amounts and percents.
- Profit analysis by item class—prints item class information from all or a selected range of item classes. The information is the same as the interim profit analysis by item report.
- Profit analysis by item sales amount—prints all items sequenced by descending sales amount. This report can relate high volume sales items to their profit contribution.

Profit analysis by customer

This report shows, at a glance, the profitability of each customer. The report can be printed for all or a range of companies, if you selected multicompany support, or for all or a range of customers.

```
NORTHCREEK IND.   NO. 01              PROFIT ANALYSIS BY CUSTOMER              DATE  2/10/**  TIME 15.12.53  PAGE    1  AMS12
                                        FOR PERIOD 2    MTD/YTD

CUSTOMER  NAME
CUSTOMER/SALESMAN ø-------------------- P-T-D --------------------ø    ø-------------------- Y-T-D --------------------ø L.YR
        NUMBER    SALES AMT      COST              G.P. AMT  PCT        SALES AMT      COST              G.P. AMT  PCT  PCT

  APPOLL SUPPLY CO.
01135000  31701    4,372.17      3,214.30         1,157.87  26.5       11,239.60      8,431.64         2,807.96  25.0  30.3
  ALMON SAFETY EQUIPMENT
01144000  31705    1,297.43      1,199.87            97.56   7.5        8,193.36      4,138.61         4,054.75  49.5  29.5
  AL'S CLEANING SERVICE
01154000  31706    2,437.52      1,989.74           447.78  18.4        7,287.47      4,558.47         2,729.00  37.4  26.9
  AMERICAN STEEL
01183000  31709    6,732.41      4,321.06         2,411.35  35.8       15,272.56     10,732.43         4,540.13  29.7  24.8
  BICKERS & WHITE
02007000  31901    4,316.41      1,273.82         3,042.59  70.5       11,269.23      4,271.79         6,997.44  62.1  24.8
  CAMERON COMPANY
03027000  31901    1,796.83        987.41           809.42  45.0       10,170.09      7,119.23         3,050.86  30.0  31.9
  DAY SUPPLIES, INC.
04015000  31705    3,117.92      3,009.43           108.49   3.5       10,338.99      9,129.15         1,209.84  11.7  22.7
  GOULD SUPPLY
07175000  31901    4,782.37      2,341.26         2,441.11  51.0       13,932.80      7,370.47         6,562.33  47.1  26.5
  GOLNER CONTROL CO.
07181000  31702    6,312.41      3,156.20         3,156.21  50.0       14,238.26      7,670.93         6,567.33  46.1  31.7


COMPANY
TOTALS            35,165.47     21,493.09        13,672.38  38.9      101,942.36     63,422.72        38,519.64  37.8


FINAL
TOTALS            35,165.47     21,493.09        13,672.38  38.9      101,942.36     63,422.72        38,519.64  37.8


OPTIONS CHOSEN

     ALL COMPANY NUMBERS
```

Sales analysis by customer

This report lists current period and year-to-date sales for each customer and compares them to the corresponding period in the last year. The report can help in highlighting changes in buying patterns that may warrant close management or sales attention.

```
NORTHCREEK IND.    NO. 01              SALES ANALYSIS BY CUSTOMER                 DATE 2/10/**  TIME 15.12.47  PAGE    1  AMS12
                                       FOR PERIOD 2   PTD/YTD

                                              ◇--------- P-T-D AMOUNTS ---------◇        ◇--------- Y-T-D AMOUNTS ---------◇
    CUSTOMER   SALESMAN                                               PCT                                         PCT
    NUMBER     NUMBER          CUSTOMER NAME      THIS YEAR  LAST YEAR DIFF           THIS YEAR    LAST YEAR      DIFF
    01135000   31701    APPOLL SUPPLY CO.          4,372.17    588.63  642.8          11,239.60    10,524.59      6.9
    01144000   31705    ALMON SAFETY EQUIPMENT     1,297.43    591.08  119.5           8,193.36     7,537.09      7.3
    01154000   31706    AL'S CLEANING SERVICE      2,437.52    415.71  486.4           7,297.47     7,411.85      1.7-
    01183000   31709    AMERICAN STEEL             6,732.41    732.01  819.7          15,272.56    13,092.03     16.7
    02007000   31901    BICKERS & WHITE            4,316.41    595.95  624.3          11,264.23    11,060.47      1.9
    03027000   31901    CAMERON COMPANY            1,796.83    717.70  150.4          10,170.09    12,671.95     19.7-
    04015000   31705    DAY SUPPLIES, INC.         3,117.92    618.94  403.8          10,338.99    11,173.50      7.5-
    07175000   31901    GOULD SUPPLY               4,782.37    784.32  509.7          13,932.80    14,131.42      1.4-
    07181000   31702    GOLNER CONTROL CO.         6,312.41  6,792.58    7.1-         14,236.26    12,427.84     14.6


                        COMPANY TOTALS            35,165.47 11,836.92  197.1         101,942.36   100,130.79      1.8


                        FINAL TOTALS             35,165.47 11,836.92  197.1         101,942.36   100,130.79      1.8


OPTIONS CHOSEN

     ALL COMPANY NUMBERS
```

Sales analysis by customer class

This report prints one line per customer class and shows the same information as the sales analysis by customer report.

Interim customer sales reports

Three reports are available on demand to show the current interim customer sales:

- Customer sales report—lists all or a range of companies, if you selected the multicompany support, or all or a range of customers. The report shows the gross sales, cost and profit amounts, plus profit percent for each customer selected.
- Profit analysis by customer sales amount—shows the same information as the customer sales report, except that the customers with the highest dollar sales activity will appear first.
- Customer class sales report—sales volume, cost and gross profit amounts are shown for each customer class with current period activity. The profit percentage is also calculated and printed.

Profit analysis by salesman

In contrast to the total sales, this report focuses on profit. Usually produced at the end of a period but available on demand, it shows gross profits, percentage, and amounts. It recaps the year-to-date totals for the invoiced amounts and cost of goods. This report eases the evaluation of territory profitability and productivity, to highlight situations that may need management attention.

```
   NORTHCREEK IND.   NO. 01              PROFIT ANALYSIS BY SALESMAN              DATE  2/10/**  TIME 15.17.22  PAGE   1  AMS32
                                         FOR PERIOD 2   PTD/YTO

 SALESMAN                        +------------------- P-T-D -------------------+  +------------------ Y-T-D ------------------+ L.YR
 NUMBER    SALESMAN NAME         SALES AMT      COST       G.P. AMT   PCT    SALES AMT      COST       G.P. AMT   PCT PCT

 31701 ROBERT G. AKRON           17,542.45    9,327.12    8,215.33   46.8   65,661.35    29,813.95    35,847.40   54.6 29.5
 31702 BOBBY JOE ADAMS           39,607.17   27,538.53   12,068.64   30.5   85,064.37    59,524.83    25,539.54   30.0 22.0
 31705 WILLIAM E. ANDERSON       27,241.12    9,879.45   17,361.67   63.7   69,978.21    29,669.01    40,309.20   57.6 21.5
 31706 CHARLES W. ARNOLD         27,142.43   10,012.22   17,130.21   63.1   75,410.52    33,483.63    41,926.89   55.6 25.5
 31709 JOE DON BAKER             33,074.20   15,102.12   17,972.08   54.3   89,174.01    45,310.02    42,863.99   48.1 24.5
 31901 RAY PIERCE                32,340.12    9,870.37   22,469.75   69.5   80,355.38    10,882.56    69,472.80   86.5 28.6

       FINAL TOTALS             176,947.49   81,729.81   95,217.68   53.8  465,643.84   209,684.02   255,959.82   55.0


 OPTIONS CHOSEN

       ALL SALESMAN NUMBERS
```

Sales analysis by salesman

This report is especially helpful to both salesmen and management, in tracking both performance trends from year to year and progress toward increased annual sales. It compares each salesman's current period sales to his sales for the same period last year, and shows the percentage difference. It also compares year-to-date figures.

```
NORTHCREEK IND.    NO. 01              SALES ANALYSIS BY SALESMAN              DATE  2/10/**  TIME 15.17.17  PAGE   1  AMS32
                                       FOR PERIOD 2  PTD/YTD

                                       *--------- P-T-D  AMOUNTS ---------*   *---------- Y-T-D  AMOUNTS ----------*
      SALESMAN                                            PCT                                          PCT
      NUMBER      SALESMAN NAME         THIS YEAR   LAST YEAR   DIFF          THIS YEAR    LAST YEAR    DIFF

      31701    ROBERT G. ARRON          17,542.45    5,498.70   219.0         65,661.35    959,184.45   93.2-
      31702    BOBBY JOE ADAMS          39,607.17    3,895.83   916.7         85,064.37    731,872.04   88.4-
      31705    WILLIAM E. ANDERSON      27,241.12    3,659.90   644.3         69,978.21    634,757.33   89.0-
      31706    CHARLES W. ARNOLD        27,142.43    4,136.89   556.1         75,410.52    738,850.06   89.8-
      31709    JOE DON BAKER            33,074.20   48,082.72    31.2-        89,174.01    846,511.89   89.5-
      31901    RAY PIERCE               32,340.12    4,116.45   685.6         80,355.38    128,917.17   37.7-

               FINAL TOTALS            176,947.49   69,390.49   155.0        465,643.84  4,040,092.94   88.5-


OPTIONS CHOSEN

          ALL SALESMAN NUMBERS
```

Inquiries

The Sales Analysis application permits inquiries into the status of customers, items, or salesman data in its master files at any time. Three inquiries are available: salesman, item, and customer.

Salesman

After the operator enters the requested salesman number, the system responds with information related to the accounting cycle (such as current month) and displays the past 12 months or 13 periods of activity, based on your accounting cycle.

```
DATE 09/08/**          SALES ANALYSIS INQUIRY                    AMS381  04
                         SALESMAN SALES

SALESMAN NUMBER 31705          SALESMAN NAME WILLIAM E ANDERSON

CURRENT PERIOD      12        FIRST FISCAL PERIOD              1

SALES MTD/PTD      7,241.12             SALES YTD      49,400.90
COST  MTD/PTD      3,879.45             COST  YTD      29,669.01


SALES
   PERIOD 1     4,273.70  PERIOD 2    3,659.90  PERIOD 3     4,273.71
   PERIOD 4     5,494.88  PERIOD 5    4,879.92  PERIOD 6     5,457.71
   PERIOD 7     3,659.93  PERIOD 8    4,879.26  PERIOD 9     6,105.34
   PERIOD 10    6,716.55  PERIOD 11   6,105.31  PERIOD 12    5,494.73
   PERIOD 13    2,748.35

                                           CK24 END OF JOB
```

Item

The operator enters the item number requested, and the system responds with some static item data and the sum of the current period activity, along with the previous periods. Both dollar and quantity information are shown.

```
DATE 09/08/**          SALES ANALYSIS INQUIRY                    AMS361  04
                          ITEM SALES
ITEM NUMBER  0203591-08         ITEM DESCRIPTION WHEEL 8 IN. DIA.
ITEM CLASS           80
CURRENT PERIOD       12     FIRST FISCAL PERIOD              1
SALES MTD/PTD     30.13             SALES YTD      446.95
COST  MTD/PTD     15.05             COST  YTD      248.79
QTY   MTD/PTD        10             QTY   YTD         169
LOST  MTD/PTD         1             LOST  YTD           5

QUANTITY
   PERIOD 1       14  PERIOD 2       12  PERIOD 3        15
   PERIOD 4       18  PERIOD 5       17  PERIOD 6        19
   PERIOD 7       12  PERIOD 8       18  PERIOD 9        21
   PERIOD 10      23  PERIOD 11      21  PERIOD 12       17
   PERIOD 13      20
SALES
   PERIOD 1    33.91  PERIOD 2    33.78  PERIOD 3     33.91
   PERIOD 4    50.17  PERIOD 5    44.04  PERIOD 6     50.17
   PERIOD 7    33.78  PERIOD 8    43.46  PERIOD 9     61.30
   PERIOD 10   62.43  PERIOD 11   61.30  PERIOD 12    46.75
   PERIOD 13   50.02
                                           CK24 END OF JOB
```

Customer

This inquiry displays the sum of all current period activity and the previous period's activity.

```
DATE 09/08/**              SALES ANALYSIS INQUIRY                    AMS341 04
                              CUSTOMER SALES

CUSTOMER NUMBER                   1135000       COMPANY NUMBER         1
CUSTOMER NAME  APPOLLO SUPPLY CO.               CUSTOMER CLASS         10

CURRENT PERIOD                    12            FIRST FISCAL PERIOD    1

SALES MTD/PTD            4,372.17               SALES YTD      8,151.36
COST  MTD/PTD            3,214.30               COST  YTD      6,431.64
INV   MTD/PTD                   4               INV   YTD             12

SALES
   PERIOD 1         686.74    PERIOD 2      588.63    PERIOD 3       688.74
   PERIOD 4         882.95    PERIOD 5      788.44    PERIOD 6       984.06
   PERIOD 7       1,079.16    PERIOD 8      981.06    PERIOD 9       882.95
   PERIOD 10        588.63    PERIOD 11   2,078.45    PERIOD 12      882.34
   PERIOD 13        699.32

                                                     CK24 END OF JOB
```

Interfaces

The Sales Analysis application interfaces with the following other MAPICS applications, if they are installed:

- Order Entry and Invoicing provides sales and cost information related to customers, salesmen, and items. A code is available in the customer record which allows you to maintain sales analysis information on only those customers you consider pertinent.
- Accounts Receivable provides customer and salesman information for those invoices or credit memos entered directly into Accounts Receivable.
- Inventory Management provides information related to individual item sales for those sales transactions entered directly into Inventory Management. A code is available in the inventory record which allows you to maintain sales analysis information on only those items you consider pertinent.

Purchasing

Information flow

Figure 2-9 shows how information flows through the Purchasing application. The numbers in the following discussion refer to that figure.

Requisitions are entered at a work station or are created with information from Material Requirements Planning and Product Data Management **1**. Purchasing prints requisition analysis reports to help you make and prioritize purchasing decisions. Purchase orders may be entered at a work station, be drawn from open requisitions, or be taken from the planned order file in the Material Requirements Planning application. These purchase orders can be either single or blanket purchase orders **2**. Purchasing accepts routing data from Product Data Management and also retrieves standard purchase order routings.

Purchasing tracks all outstanding purchase orders and, as orders are received, prints receiving reports **3**. Purchasing passes invoice information to Accounts Payable **4** so that invoices can be processed for payment.

PDM
PRODUCT DATA
MANAGEMENT

MRP
MATERIAL
REQUIREMENTS
PLANNING

2 Purchase
Orders

Buyer
Worksheet

Backlog by
Buyer Report

Analysis by
Dept. or
Account Report

Prioritized
Requisitions
Report

PUR

1

3 Receiving
reports

4 AP
ACCOUNTS
PAYABLE
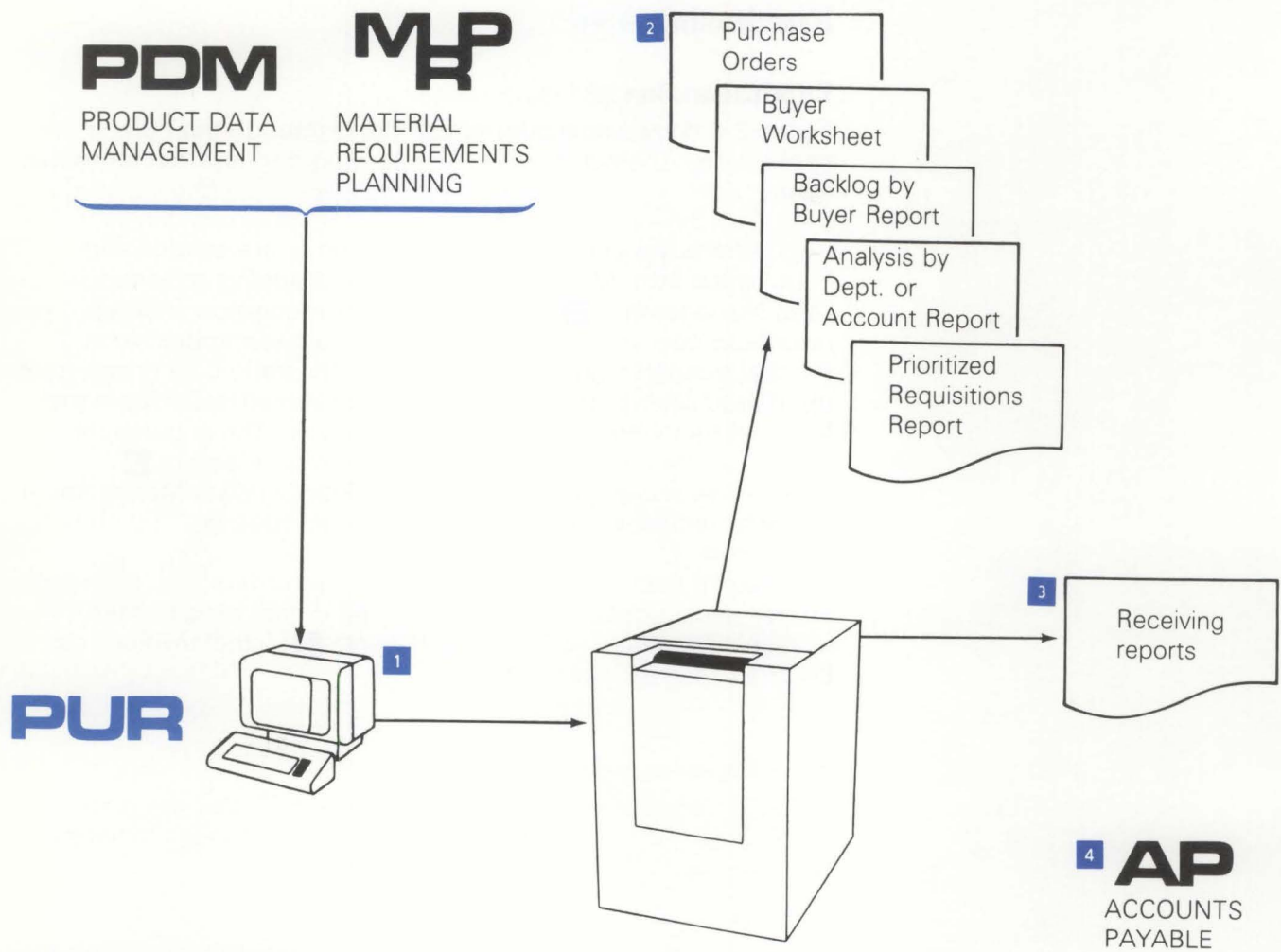
Figure 2-9. Purchasing information flow

Application functions

Requisition entry and maintenance

Requisitions are created automatically by the Material Requirements Planning (MRP) release function or manually at any work station. Production items, capital items, supplies, services, and so on can be handled on the same system.

On an individual item basis, the application allows for input of the time-phased schedule from MRP as a blanket release. Three-time fences control the level of commitment to the vendor.

Automatic printing of the purchase order will allow bypassing of the requisition entry and control steps.

A detailed list of all open requisitions, with a cash summary for each requesting account or department, aids in the commitment of financial resources.

To control the purchase order release process, analysis of buyer backlog versus demonstrated output detects purchasing bottlenecks. A prioritized daily list of open requisitions determines the most critical situations.

Purchase order inquiry

Status information on quantities which have cleared the dock, quality control, and the stockroom is available through inquiries. Fast retrieval is provided for:

- All open purchase orders for a specific item
- All open purchase orders for a specific vendor.

Reports are prepared to highlight overdue acknowledgments and purchase orders. Special inquiries help receiving personnel identify purchase orders:

- Alpha search on a portion of vendor name to help identify a vendor number
- Alpha search on a portion of item description to help identify an item number.

Print formats

Three print formats are available for individual purchase orders:

- Standard
- Blanket
- Drop-ship.

Purchase orders are released from any work station by completing an open requisition or by entering data if no requisition exists. Automatic entry through MRP is also available.

Purchase order revision printing

Purchase order revisions are accomplished by changing the order data from a work station. This starts the printing of a completely revised purchase order with all changes highlighted. Changes are maintained in the purchase order status and history files.

Purchase order tracking

A purchase routing can be assigned to any individual item, with each routing specific to the item. To reduce file storage requirements, a standard routing can be assigned to each item at the time of order release. The standard routing selected is based on an item number stored in the Purchase Item Master record.

Both a purchasing and a manufacturing routing can be assigned for each item. An extended operation description capability is used for detailed dock-to-stock instructions. The variable routing capability allows an item to:

- Be directly routed to the production area
- Bypass inspection on the way to the stockroom
- Be held for quarantine
- Have multiple inspection/testing steps assigned.

Purchase order history

To assist in purchasing decisions, a history of recent purchases is maintained and is available through reports and inquiries. The history contains price, delivery, performance, quality, and other optional data accumulated during the life of the purchase order.

Extended message capability

Clerical effort associated with preparing a purchase order and communicating with the vendor and receiving personnel has been reduced with the following capabilities:

- An 80-character item description, in addition to the 30-character item description carried in Inventory Management.
- Standard variable length messages can be printed on each purchase order; for example, notification of a plant shutdown period.
- Special messages can be entered at time of order entry to be printed on the purchase order or aimed at receiving personnel to show specific routings, handling, or storage.

Special messages can be associated with any item and automatically printed on all purchase order revisions and requests for quotation.

Quotation entry and maintenance

This function is used to enter requests for quotation. Up to five price/quantity quotes are accommodated, along with quotes on lead time, payment terms, FOB point, and estimated shipping charges. Overdue quotation feedback is detected. Requests for new quotes are automatically generated as the expiration date of an existing quotation approaches.

Transaction entry and update

All transactions from the dock-to-stock area update the order status as they are entered. Transactions can contain the vendor number to help monitor performance.

Editing of each transaction is extensive and includes:

- A check for over, under, late, or early shipment and high percentage rejection rate
- Quantity discrepancies from previously reported operations.

Prioritized dock-to-stock work lists

Purchasing provides the following functions:

- Prioritized work sequence report for making work assignments
- Work center analysis report for detecting bottlenecks and monitoring the performance of dock-to-stock work centers.

Lead time enhancements

A "to dock" due date can be carried separately from the "to stock" due date. To control lead times, four separate elements are provided:

- Review and order placement lead time
- Vendor quoted lead time
- Safety lead time
- Dock-to-stock lead time.

Validation of vendor and freight invoices

Entries can be automatically checked against the Purchase Order Status file. A report is prepared, highlighting discrepancies in quantity, invoice amount, terms, ship via, and FOB point.

Debit memos

The printing of debit memos is initiated at a work station. The transaction detail is posted to the Purchase Order Status file and held until the credit memo is entered.

Cash requirements

A time-phased analysis of cash requirements, adjusted for vendor quoted payment terms, is available.

Assignment of vendor item numbers

The application is able to automatically print the vendor's item number on all purchase orders, revisions, and quotation requests.

Vendor analysis

At order close, information on vendor price, delivery, and quality are updated. These ratings are maintained for each vendor/item. A composite vendor rating reflects all purchase order activity for vendor items.

Purchase order acknowledgment

This acknowledgment validates the closing of an order and can be prepared for selected items at the user's option.

Operations

Requisition entry

You can enter requisitions manually or automatically. Manual entry occurs at any work station. All data is specified on the Requisition Entry display. The requisition layout is similar to that of a purchase order, preventing the need for duplicate entry. Additionally, any data not known at the original entry stage can be added later to either the requisition or the purchase order. The system automatically edits the requisition for valid field entries.

```
DATE  11/30/**  TIME  14 55 27   PURCHASE SYSTEM   ADD      AM64B2   W8
                          REQUISITION ENTRY AND MAINTENANCE

REQUISITION NUMBER R 000092        REQUISITION DATE  11/30/** REVISION #

                ITEM  7362917         DESC  PLANNAR ASSY

EXT. DESCRIPTION

QUANTITY          25              DATES-
U/M       EA                      TO DOCK
WHOUSE    1                       TO STOCK     1215**
SHIP-TO ID                        FOLLOW-UP
ACCOUNT         1000              LAST MAINT
DEPT      656
CONTRACT
PRIORITY                          REQUISITIONER   CHUCK R.
JOB NUMBER 123450                 PURCHASE ORDER  P757100
REF NUMBER L56122                 PRICE  4        15000000
                                      CK09 REQ COMMENTS
                                      CK19 RETURN TO SELECT
                                      CK24 DISPLAY STATUS
```

Automatic entry occurs through the Material Requirements Planning release function. This option automatically creates open requisitions for review and approval. The result is a substantial reduction in clerical effort.

Maintenance options: The following maintenance options are available:

A = Add new records
C = Change existing records
D = Delete existing records
R = Reactivate previously deleted records

These are standard options throughout the application. They allow for efficient record maintenance and control.

Requisition entry bypass: Where orders are preplanned and approved, requisition entry can be bypassed. Through MRP, planned orders are fed directly to the Purchasing system, and purchase orders are automatically printed. The purchase orders are available for review, with any necessary changes being made on a purchase order update display. This function is normally used only for minor, repetitive items.

Status display: Following entry and maintenance of records, the system displays file and session status. This standard feature of the application is especially helpful as a double check of hand-kept totals.

Reports: The application generates three requisition analysis reports that help make and prioritize purchasing decisions:

- Prioritized Requisitions
- Backlog by Buyer
- Analysis by Department or Account.

Prioritized Requisitions report

```
USER ID ALISON              ABC COMPANY              PURCHASING        DATE 2/07/**   TIME 11.38.31   AM62C1    PAGE   1

            REQUISITION ANALYSIS PRIORITIZED BY CRITICAL RATIO - LEAD TIME / REQUESTED DUE DATE
                              BUYER RANGE FROM BEGINNING TO END

                              DEPARTMENT RANGE BEGINNING TO END

BUYER  [1]   [2]                                                                              [3]               [4]

REQ    PRITY     C/R    W   ITEM          REQN    DUE     DUE     QUANTITY  U/     VALUE   DEPT   ACCOUNT  REQ ID
NO.    MGT              H   NUMBER        DATE    DOCK    STOCK             /M
ITEM DESC                          EXTENDED DESCRIPTION
-------------------------------------------------------------------------------------------------------------------
R000080     109.90    1   2397045       4/28/**  5/26/**  5/27/**   1,000  EA     .0000                     AUTOREL
            LED,LIGHT

R000081     188.75    1   55901         3/30/**  4/13/**  4/15/**     149  EA     .0000                     AUTOREL
            WASHER,LOCK,EXT T,.172IDX.3800

   NUMBER OF RECORDS              2

   TOTAL VALUE              .0000
```

1 Priority management—Priority override code assigned by the requisitioner.

2 Critical ratio—Automatically calculated, the critical ratio is the number of days to due date divided by the remaining dock-to-stock lead time. The smaller the ratio, the more critical the job.

3 Value—Extended cost of item(s) requested.

4 Requisition identification—The name or initials of the requisitioner or AUTO/REL for automatic release.

Backlog by Buyer report

This summary report lists the total of open requisitions and pending dollar commitments for each buyer.

Analysis by Department or Account report

This summary report lists all open requisitions and pending dollar commitments for each department or account.

Requisition entry inquiries: At all stages, the application provides records and file status information by inquiries. Requisition inquiry occurs in one of two ways:

- By requisition number
- By item number.

This inquiry display shows combined information from the requisition itself and the Purchase Item Master file.

```
DATE   2/07/**                    PURCHASING              INQUIRY   AM61E2  W8

                     REQUISITION INQUIRY - BY REQUISITION

REQUISITION #  R 000102      STATUS  OPEN   ORDER

ITEM # 9486340              DESCRIPTION  PLASTIC PELLETS             REV
EXT. DESCRIPTION


QUANTITIY          75        LEAD TIMES          DATES
U/M          LB              VENDOR        25    REQUISITION      12/09/**
WHOUSE       1               DOCK/STOCK    5     DOCK REQUIRED    12/19/**
SHIP-TO ID   000             REVIEW              STOCK REQUIRED   12/22/**
ACCOUNT                      SAFETY              FOLLOW-UP
DEPT                                             LAST MAINTENANCE 12/09/**
CONTRACT                     BUYER       00100
PRIORITY                     PLANNER     00100   JOB NUMBER
ITEM CLASS   RM                                  REF NUMBER
COMMODITY                    REQUISITIONER  BURNIE

UNIT PRICE   LB              .0175               CK09  DISPLAY COMMENTS
VALUE                       1.3125               CK19  RETURN TO SELECT
                                                 CK24  END OF JOB
```

This inquiry display lists all requisitions for a specific item.

```
DATE   2/07/**                    PURCHASING              INQUIRY   AM61F2  W8

                       REQUISITION INQUIRY - BY ITEM

    ITEM #  1940               WASHER,FLAT,#10X9/160DX3/64THK
                                       REQTO
                                       DOCK       PRICE
REQ #       QUANTITY    U/M  DATE       STOCK      VALUE     UM REQUISITIONER

RTEST            100    EA   4/29/** 12/30/**        .0150   EA   VAMBO
                                    12/30/**        1.5000

R00123A    1,000,000    EA   4/29/**  5/23/**        .0150   EA   HL
                                      6/01/**   15,000.0000       ORDER P989178

R00123B           10    EA   4/29/**  5/23/**        .0150   EA   HL
                                      6/01/**         .1500       ORDER P989094

R00123C           10    EA   4/29/**  5/23/**        .0150   EA   HL
                                      6/01/**         .1500

                                                    CK02  PAGE FORWARD
                                                    CK19  RETURN TO SELECT
          MORE REQUISITIONS TO DISPLAY              CK24  END OF JOB
```

Buyer Worksheet

The Buyer Worksheet is a powerful decision-making tool provided by the system. Especially an automated buy card, this report summarizes all information needed to make a purchasing decision. You can select information by a range of items and/or buyers, and include all requisitions, purchase orders, valid quotes, and online history. The worksheet is generally used as a detail report with items selected from the prioritized requisition report. A sample Buyer Worksheet is shown here.

```
USER ID ALISON              ABC COMPANY          PURCHASING      DATE 2/07/**   TIME 11.31.19   AM640    PAGE  15
                                              BUYER WORK SHEET             ALL ITEMS

BUYER  00000    UNKNOWN - WILL ASSIGN

                                                                                      ----LEAD TIME----
ITEM            DESCRIPTION              STK PUR   U/M   ITEM TYPE          CURRENT    STF VEN REV STK  PLANNER
                                         U/M U/M   CONV                    PRICE
2397045                                  EA  EA    1.00                      .0900     0   20   0   1

* * * * * * * * * * * * * * * * * * * *   OPEN PURCHASE ORDERS  * * * * * * * * * * * * * * * * * * * * * * *
ORDER      W/H   ORDER       QUANTITY  P.O.      PRICE    VENDOR    DUE TO    DUE TO    CONTRACT  REQ NO  REQUISITIONER
                 QUANTITY U/M OPEN      STAT                        DOCK      STOCK
P989177     1       250  EA    250              10.0000  000001    1/18/**   1/19/**    00000    R000079
       * INDICATES HELD ORDERS
* * * * * * * * * * * * * * * * * * * *   PURCHASE ORDER HISTORY  * * * * * * * * * * * * * * * * * * * * * *


NO HISTORY FOR ITEM

* * * * * * * * * * * * * * * * * * * *   OPEN REQUISITIONS  * * * * * * * * * * * * * * * * * * * * * * *
REQ      W/H     QUANTITY  REQ      REQ    DOCK        STOCK      PRTY DEPT  PLANNER   REQUISITION   REQUISITIONER  REV.
NO.                        U/M      PRICE  REQUIRED    REQUIRED                        DATE
R000080   1        1.000   EA       .0000  5/26/**     5/27/**    0          00000     4/28/**       AUTOREL        00
R000083   1          109   EA      1.1000  5/10/**     5/11/**    0          00000     4/14/**       AUTOREL        02
R000084   1          200   EA      1.1000  5/11/**     5/12/**    0          00000     4/15/**       AUTOREL        02
R000085   1        1.000   EA      1.1000  5/26/**     5/27/**    0          00000     4/28/**       AUTOREL        00
* * * * * * * * * * * * * * * * * * * *   PRIMARY QUOTE  * * * * * * * * * * * * * * * * * * * * * * * * *
QUOTATION  CONTR   VENDOR      VENDOR NAME        VENDOR CATALOG       BASE PRICE   U/M   QUOTATION   EXPIRATION
NO.        NO.     NO.                            NO.                                     DATE        DATE

000001     00002   000200   MARGARET R SKRIBA 2   TEST TEST TEST                    EA   0/00/00     9/28/**

           QUANTITY        10            20            30            40            50
           PRICE        1.0000         .9000         .8000         .7000         .6000
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
```

Purchase order entry

You can enter purchase orders manually or automatically.

Manual entry occurs at any work station in one of two ways:

- By completing an existing requisition
- By entering data if no requisition exists.

Automatic entry occurs with an interface to MRP. Automatic release is controlled by codes in the Purchase Item Master file.

Purchase order maintenance options: Standard maintenance options (add, change, delete, and reactivate) are available to handle revisions throughout the life of the purchase order.

Purchase order entry inquiries: Purchase order inquiry occurs in one of two ways:

- By purchase order number
- By item number.

This display provides all available information on a specific purchase order.

```
DATE  2/07/**                      PURCHASING            INQUIRY    AM61A3  Y2

                    PURCHASE ORDER INQUIRY - P.O. DETAIL

   ORDER P989060  STATUS 20 CONTRACT      ITEM CLASS  5X CMDITY CODE

   ITEM 1940                       WH 1 WASHER,FLAT,#10X9/16DDX3/64THK PLANNER 00300
   THIS ITEM QUANTITY WAS CHANGED -       WAS 00000000150, CHANGED 042983
   STOCK UM EA          PURCH UM DZ        CONV FACT    12.00

   WHOUSE LOCATION   J2111  DEPARTMENT          TYPE 01 STANDARD ITEM BLANKET
   QUANTITY -               DATES -
   ORDERED            150   ORDERED      4/29/** UNIT COST            .0150
   DEVIATION                DUE TO DOCK          EXTND COST         1.5000
   AT DOCK                  DUE TO STOCK         RWORK COST
   INSPECT                  FIRST DELIVERY
   SCRAPPED                                      CK05  ITEM DETAIL
   REWORKED                 LAST ACTIVITY        CK06  MULTIPLE RELEASE
   RETRN/VNDR               LAST MAINTAIN 4/29/** CK07  OPERATIONS
   IN STOCK                                      CK09  ITEM COMMENTS
                                                 CK10  ALTERNATE U/M
   REQN #                                        CK13  ORDER SUMMARY
                                                 CK19  RETURN TO SELECT
                                                 CK24  END OF JOB
```

This display lists all open purchase orders for a specific item.

```
DATE   11/30/**   TIME   15 30 59   PURCHASING        INQUIRY       AM61B2        W8

                                   ALL OPEN ORDERS FOR AN ITEM

   ITEM   7362917      WH  1    PLANNAR ASSY

   ORDER     DUE        QUANTITY           QUANTITY    UM  BL MULT RCVD ORDER REQN
             DATE       ORDERED            OPEN                SHIP STAT STAT NO.

   P989149 12/15/**         30                 30     EA  N             10   R000090
   P989150  1/04/**         30                 30     EA  N             20   R000091




      END OF DATA                                          CK02  PAGE FORWARD
                                                           CK19  RETURN TO SELECT
                                                           CK24  END JOB
```

Purchase order print formats: The application generates three purchase order print formats which incorporate item, due date, and drop-shipment location information:

- Standard
- Blanket
- Drop-ship.

Standard purchase order format

```
 O
 O      YOUR FIRM NAME HERE
 O
 O      123 Main Street                                      PURCHASE ORDER
 O      YOUR TOWN, STATE and ZIP                             NUMBER-REV
        Phone 123-4567                                       0000600-00
 O
 O                                          ┌─SHIP TO─────┐
                                            ABC COMPANY
 O         ┌─ VENDOR ──────┐                PLANT NUMBER 1
 O         AJAX SYSTEMS                     ATLANTA, GA
           123 SOMEWARE ST.
 O         ATLANTA, GA                                30328
 O                      30328
                                            ┌─BILL TO─────┐
 O                                          ABC COMPANY
 O                                          CORPORATE ST
                                            ATLANTA, GA   30328
 O
```

PO DATE	VENDOR	SHIP VIA	FOB	TERMS		DELIV BY
9/30/**	00077	TRUCK	OUR PLANT	1 P/C 10 NET 30		11/05/**

ORDER PLACED WITH	FREIGHT	BUYER	404 252 0482
TOM BROWN		J.THOMAS	

OUR ITEM NUM VENDOR ITEM NUM DESCRIPTION	QUANTITY	UM	UNIT PRICE	AMOUNT
PLANT CLOSED 11/26/** - 11/27/** DO NOT SHIP TO ARRIVE AT THIS TIME.				
354221 WH008 8 IN WHEEL USE OUR BLUEPRINT NUMBER A-123-54. USE Q.C. PROCEDURE-14064 PRIOR TO SHIP.	12	EA	4.0000	48.00
			TOTAL	48.00

```
        – – – – – – – – – – – – – –

                 (AUTHORIZED BY)
```

Drop shipment purchase order format

```
YOUR FIRM NAME HERE

123 Main Street
YOUR TOWN, STATE   and ZIP                                   PURCHASE ORDER
Phone 123-4567                                               NUMBER-REV
                                                             0000600-00


                                        ──── SHIP TO ────
                                        ABC COMPANY
        ──── VENDOR ────                PLANT NUMBER 1
        AJAX SYSTEMS                    ATLANTA, GA
        123 SOMEWARE ST.
        ATLANTA, GA                              30328
                      30328
                                        ──── BILL TO ────
                                        ABC COMPANY
                                        CORPORATE ST
                                        ATLANTA, GA  30328
```

PO DATE	VENDOR	SHIP VIA	FOB	TERMS		DELIV BY
9/30/**	00077	TRUCK	OUR PLANT	1 P/C 10 NET 30		SEE DESC

ORDER PLACED WITH		FREIGHT	BUYER	404 252 0482
TOM BROWN			J.THOMAS	

OUR ITEM NUM	VENDOR ITEM NUM	QUANTITY	UM	UNIT PRICE	AMOUNT
DESCRIPTION					
75219 22715		20	EA	8.0000	160.00
VALVE DATE 11/05/**					
43602 F00010		*BLANKET	EA	.0750	
FASTENER					
LAST QTY RECD. 1000 ON 10/05/**					
DROP SHIPMENT DELIVER BY 11/01/**		1000			75.00
TO ABC COMPANY					
PLANT NUMBER 4					
ATLANTA, GA					
30328					
DROP SHIPMENT DELIVER BY 11/15/**		1000			75.00
TO ABC COMPANY					
PLANT NUMBER 9					
ATLANTA, GA					
30328					
354221 WH008		40	EA	4.0000	160.00
9 IN WHEEL DATE 11/05/**					

					TOTAL	48.00

```
                    _ _ _ _ _ _ _ _ _ _ _ _ _
                      (AUTHORIZED BY)
```

Blanket purchase order format


```
YOUR FIRM NAME HERE

123 Main Street
YOUR TOWN, STATE, and ZIP                        PURCHASE ORDER
Phone 123-4567                                    NUMBER-REV
                                                  0000600-00

                                    ── SHIP TO ──
                                    ABC COMPANY
     ── VENDOR ──                   PLANT NUMBER 1
   AJAX SYSTEMS                     ATLANTA, GA
   123 SOMEWARE ST.
   ATLANTA, GA                                      30328
                  30328
                                    ── BILL TO ──


PO DATE  VENDOR  SHIP VIA  FOB        TERMS              DELIV BY
9/30/**  00077   TRUCK     OUR PLANT  1 P/C 10 NET 30    SEE BODY
ORDER PLACED WITH          FREIGHT                   404 252 0482
TOM BROWN                            BUYER
                                     J. THOMAS
OUR ITEM NUM    VENDOR ITEM NUM      QUANTITY UM  UNIT PRICE   AMOUNT
    DESCRIPTION
354221          WH008                *BLANKET EA   4.0000
     8 IN WHEEL

***TIME PHASED COMMITMENT ORDERS***
   LAST QTY RECD.      28    ON 9/15/**
FIRM               DELIVER BY 10/09/**    12                    48.00
                              10/16/**    22                    88.00
                              10/23/**    18                    72.00
                                                    **TOTAL    208.00
COMMITMENT AUTHORIZED
                   DELIVER BY 10/30/**    18                    76.00
                              11/06/**    28                   112.00
                                                    **TOTAL    188.00

FOR PLANNING ONLY
                   DELIVER BY 12/04/**    12                    48.00
                   DELIVER BY  1/15/**    12                    48.00
                   DELIVER BY  1/30/**    12                    48.00
                                                    **TOTAL    144.00




            ******PURCHASE ORDER               TOTAL         144.00

                   ────────────────────
                   (AUTHORIZED BY)
```

The data on a given purchase order can be combined as follows:

- **Standard purchase orders**
  - Single item, single date, single ship-to
  - Multiple item, multiple date, single ship-to
  - Multiple item, single date, single ship-to.
- **Blanket purchase orders**
  - Single item, multiple date, single ship-to.
- **Drop-ship purchase orders**
  - Single item, single date, multiple ship-to
  - Multiple item, single date, multiple ship-to.
- **Drop-ship with blanket purchase orders**
  - Single item, multiple date, multiple ship-to
  - Multiple item, multiple date, multiple ship-to.

Time fences: On an item basis, Purchasing allows for three time parameters which define the level of order commitment. This option occurs with an interface to MRP and is only available through the automatic release function. The time fences are printed on blanket purchase orders and show order status to the vendor.

This simplifies communication with the vendor, allowing improved vendor planning and greater ability to deliver on time.

Time fence	Order status	Definition
1st	Firm	Orders are placed; purchase is committed.
2nd	Authorized	Orders are intended; payment for vendor raw materials is committed.
3rd	Planned	Orders are planned; no commitment (for vendor planning purposes only).

Message handling: The application provides two forms of messages—standard and optional—that may be included on a purchase order. These messages may be used internally or externally to improve vendor and receiving communication.

The available messages are:

- Item descriptions up to 80 characters, in addition to the 30 characters in the Item Master file record.
- Standard messages exist up to 80 characters per line on all printed purchase orders and revisions. Each message is controlled by effective dates specified in the message header.
- Any dock-to-stock transaction up to 80 characters is retained in the Purchase Order Status file; for example, the routing on an order (receipt) to a specific work station.
- Optional messages up to 80 characters are used at order release. Messages are printed on the top of the purchase order.
- Optional messages are used for special routings, handling, or storage.

Selective print: The print option allows selective printing of purchase orders and revisions. This saves time and eliminates duplicate or unnecessary printing. The selections available are:

- All purchase orders
- All revisions
- All purchase orders and revisions
- Range of buyers
- Range of warehouses
- Single purchase orders.

Quotation entry and maintenance: The quotation option simplifies the maintenance of current price information and protects the purchaser from unexpected price changes. Quotation status is maintained in the Vendor/Item file. The file allows up to 99 quotes per vendor/item and up to five price/quantity breaks per quote. For each vendor/item, the system also maintains contract, vendor performance, and descriptive information. This information helps in price tracking and control procedures. In addition, vendor performance data is used at order close to compile the vendor performance rating. A Quotation Entry and Maintenance display is shown here.

```
DATE  2/09/**                    PURCHASING                    ADD     AM64Q3  X9
                         QUOTATION ENTRY AND MAINTENANCE
SEQUENCE NO  04
VENDOR NUMBER 000001    US STEEL                        BUYER NUMBER  00002
ITEM NUMBER   2777441                                   UM EA  PURCH UM  EA
DESCRIPTION   TRANSFORMER, 60 HZ            STATUS      UMCNV 2           100


------------------------------------------------------------------------------
VEN CAT# QUOTE   125                        PRIM VEND Y/N  Y  HOLD    TAX 2
VENDOR LT  030        TERMS                                 BLANKETS Y/N       Y
SAFETY LT  002        FOB                                   VENDOR PURCH JM
QTY               50             100           500          1000          5000
PRICE 4
-----QUOTATION-----     ----------------------CONTRACT----------------------
QUOTE NUMBER     150    CONTRACT NUMBER    250   QTY LIMIT            50000
REQUEST DATE 0131**     CONTRACT PCT. 2          UNIT FREIGHT 4
FOLLOW DATE             BASE PRICE 4
ACCEPT DATE  0215**     SETUP COST 2
EXPIRY DATE  0229**     START DATE               CK05 QUOTE COMMENTS
PRIM QUOT Y/N      Y    EXPIRY DATE              CK13 INVALIDATE QUOTE
LAST MAINT                                       CK18 REFRESH SCREEN
                                                 CK19 RETURN TO SELECT
                                                 CK24 DISPLAY STATUS
```

Receiving activities

Transaction entry: The system provides transaction codes to permit immediate dock-to-stock control and tracking. This permits management to:

- Schedule dock-to-stock activity (work load)
- Identify dock-to-stock transfer costs
- Identify existing or potential bottlenecks
- Identify transaction errors.

The available transaction codes are:

Code	Translation	Definition
VA	Vendor accept	Vendor has accepted terms.
DA	Dock	Item has been received without count acknowledgment.
CT	Count	Item has been received and counted.
RI	Received in	Item has been received for inspection.
PQ	Quality control	Item has passed quality control complete.
RP	Received to stock	Item has been received in stock without count.

Any combination or number of codes may be selected for a given purchase. This allows flexible stock tracking and routing on a company or individual order basis.

```
DATE  11/30/**  TIME  15 30 59  PURCHASING        INQUIRY      AM61B2      W8
                                 TRANSACTION PROCESSING

TRANS  ORDER      ITEM              WH   DESCRIPTION
DA     P989150    73262917          1    PLANNAR ASSY

QUANTITY                U/M     RELEASE BLNKT    RECEIVED    SHIP VIA  ACTUAL
       50               EA          00          11/30/**

COMMENTS


REFERENCE      COMPLETION CODE              INITIALS
                     C                         RM

CALL EXTENSION 125 IMMEDIATELY UPON                    CK09  COMMENTS
ARRIVAL.  RUSH ORDER WAITING                           CK19  RETURN TO SELECT
                                                       CK24  END OF JOB
```

Transaction reports: Transaction reports ease the handling and routing of orders by allowing management and the receiving department to monitor and anticipate work loads.

The application provides three reports:

- Partially-filled orders
- Travelers for expected orders on a multiple or individual basis
- Expected orders due in a given time period.

```
USER ID SMITH          ABC COMPANY              PURCHASING       DATE  2/07/**  TIME 16.18.24  AM62T       PAGE    1

                    OPTION - PURCHASE ORDERS ON HOLD WITH-IN 0004 DAYS OF DUE TO DOCK DATE

                    BUYER RANGE FROM BEGINNING TO END

BUYER  PO       ITEM              ITEM                    VENDOR   VENDOR                    QUANTITY    DOCK     BLK
NO     NUMBER   NUMBER            SEQ DESCRIPTION         NUMBER   NAME                      ORDERED     DATE
-----------------------------------------------------------------------------------------------------------------
00200  P989002  5642997           CABLE ASSY              001100   SATELLITE METAL CO.           200     6/20/**

00200  P989002  1940              WASHER,FLAT,#10X9/160DX3 000001  US STEEL                      150     8/02/**    **

00200  P989096  1940              WASHER,FLAT,#10X9/190DX3 000001  US STEEL                2,000,000     5/19/**
```

Receiving inquiries: Receiving inquiry occurs in one of three ways:

- By item number—displays all purchase orders for a given item as a cross-reference to the purchase order.
- By vendor number—displays all purchase orders for a given vendor as a cross-reference to the purchase order.
- By purchase order number—displays all available information on a specific purchase order.

Cross-referencing provides the purchasing, receiving, and accounting departments with improved transaction control. The matching and tracking of receipts assures:

- Items received match items ordered.
- Items received are either ahead or behind due dates.
- Items received are tracked to proper locations.
- Items rejected do not exceed company standards.

The application provides a prioritized work list for each work center. This permits personnel to schedule work assignments on the most critical items first.

```
USER ID SMITH           ABC COMPANY          PURCHASING      DATE  2/07/**  TIME 16.18.24  AM6N4      PAGE   1

                                    WORK LIST BY WORK CENTER TO DOCK DATE
                                    WORK CENTER 01001 - MOLDING MACHINE
                                       FOREMAN 1    DEPARTMENT  004P
                                       PRIORITY - ORDER DUE  DATE

* * * * * * * * * * * * * * * R U N N I N G   O R D E R S * * * * * * * * * * * * * * * * * * * * * * * * * *

ORDER     ITEM     ITEM     OPER     OPERATION       TOOL PRIORITY ------QUANTITY-------    NEXT NEXT       REMAINING
 NO        NO      DESC      NO        DESC             M CALC  PREV OP CURR OP SCRAP        OP W/C   SETUP HRS RUNHRS

P989092 7363034   COVER, BAS  0020  MOLD PART 7363034 MD438 0  101583                       0030 01003    1.08     .17

* * * * * * * * * * * * W A I T I N G   O R D E R S  --- R E A D Y  F O R  W O R K * * * * * * * * * * * * *

ORDER     ITEM     ITEM     OPER     OPERATION       TOOL PRIORITY QUANTITY     PREVIOUS    NEXT NEXT
 NO        NO      DESC      NO        DESC             M CALC   PREV OP         OP   W/C    OP  W/C  SETUP HRS RUNHRS

P989060 7363034   COVER, BAS  0010  MOLD PART 7363034 MD428 0  0920**                       0020 01002    .11    32.26

P989099 7363034   COVER, BAS  0010  MOLD PART 7363034 MD438 0  1130**                       0020 01002    .00    30.00

* * * * * * * * * * * * A R R I V I N G   O R D E R S  --- N O T  R E A D Y * * * * * * * * * * * * * * * * *

ORDER     ITEM     ITEM     OPER     OPERATION       TOOL PRIORITY CURRENT      PREVIOUS    NEXT NEXT
 NO        NO      DESC      NO        DESC             M CALC    OP W/C        OP  W/C     OP  W/C  SETUP HRS RUNHRS

P989060 7363034   COVER, BAS  0090  ADD OPER 0090      0  0920**               0080 01002  0100 01001   .54     6.45

P989099 7363034   COVER, BAS  0130  ADD OPER 0130      0  1130**               0120 01004             .20     5.00


        RUNNING ORDERS              WAITING ORDERS           ARRIVING ORDERS       INDIVIDUAL WORK CENTER LOAD
          REMAINING                                                                          REMAINING
        SETUP HRS  RUN HRS         SETUP HRS  RUN HRS       SETUP HRS  RUN HRS            SETUP HRS  RUN HRS

          1.08      .17              .11      62.26          .74      11.45               1.93      73.88
```

Operations are listed in sequence by a calculated priority to aid in scheduling decisions; for example, running, waiting, or arriving orders. Priority may be calculated by slack time per operation, critical ratio, or order due date. The application also permits priority manual override.

Accounts Payable processing

Invoice entry and maintenance: Purchasing increases accounting productivity, because fewer clerical hours are required to do invoice entry and maintenance operations. A general ledger account number may be assigned at the time of purchase order entry. Also, any accounts payable information on the purchase order does not have to be rekeyed by the accounting department. This eliminates the need for duplicate entries.

The application provides entry and validation for both vendor and freight invoices. Because vendor invoice amounts are held separately, this simplifies price analysis for both categories.

The application verifies that the invoiced items were actually:

■ Ordered
■ Received as ordered
■ Priced as expected
■ Shipped as expected.

Error editing and invoice updating are done online.

In addition, the application provides an edit report for all invoice entries. Discrepancies are highlighted by field. Matching invoices and receipts are automatically entered into Accounts Payable and designated with a no halt code . Invoices that do not match are given a halt code (08). If no purchase order is found, a halt code (09) is assigned. Accounts Payable, aided by the proper department, may then approve nonmatching invoices.

Accounts Payable reports: The application provides three types of invoice reports:

- Purchase orders for nonreceipt (service) items; for example, having a building painted
- Purchase orders for items received but not invoiced
- Invoices with quantities greater than receipt quantity.

A noninvoiced receipts report is shown here.

```
ABC COMPANY    NO 01      PURCHASE ORDERS WITH RECEIPTS NOT YET INVOICED   DATE 11/23/** TIME 16.24.10   AM6R3  PAGE 1
                             DETAIL
                          SEQUENCE  VENDOR/PURCHASE ORDER          VENDOR        000001 TO 000002
                                                                  BUYER         START TO END
                                                                  DATE RECEIPT  START TO END
                                                                  ITEM          1252732 TO 1940
VENDOR 000001                                                     VARIANCE      START TO END

                                                                                            $ DIFF T/D   DIF
VENDOR VENDOR NAME         BUYER   PURCH NBR  WH ORD STS  INV CD RECEIVABLE VALUE  INVOICE VALUE  VARIANCE    VAR%
       ITEM NUMBER   SEQ       DESCRIPTION
       REL STS IN LAST REC LAST INV  DOCK QTY  ORD QTY  RECVD QTY INVCD QTY  RECEIVED AMT INVOICE AMT $DIFF DIF%

000001 USA STEEL          00100  PCJ0220   1   40           25,000.7500         .00   25,000.75   100%
       1252732              KEYBOARD  JAPAN/KATAKANA
         1  50   6/27/**  0/00/00    0      50      50      0   12,500.0000   .00  12,500.00100%
       1252732              KEYBOARD  JAPAN/KATAKANA
         2  50   6/29/**  0/00/00    0      50      50      0   12,500.0000   .00  12,500.00100%
       1940                 WASHER,FLAT,#10X9/1600X3/64THK
            50   6/29/**  0/00/00    0      50      50      0       .7500     .00       .75100%

                                     VENDOR TOTAL 000100   25,000.7500   .00   25,000.75   100%*
```

```
ABC COMPANY    NO 01      PURCHASE ORDERS WITH RECEIPTS NOT YET INVOICED   DATE 11/23/** TIME 16.24.10   AM6R3  PAGE 2
                             DETAIL
                          SEQUENCE  VENDOR/PURCHASE ORDER          VENDOR        000001 TO 000002
                                                                  BUYER         START TO END
                                                                  DATE RECEIPT  START TO END
                                                                  ITEM          1252732 TO 1940
VENDOR 000002                                                     VARIANCE      START TO END

                                                                                            $ DIFF T/D   DIF
VENDOR VENDOR NAME         BUYER   PURCH NBR  WH ORD STS  INV CD RECEIVABLE VALUE  INVOICE VALUE  VARIANCE    VAR%
       ITEM NUMBER   SEQ       DESCRIPTION
       REL STS IN LAST REC LAST INV  DOCK QTY  ORD QTY  RECVD QTY INVCD QTY  RECEIVED AMT INVOICE AMT $DIFF DIF%

000002 ALPHA CORPORATION   00700  P989106   1   40           15,000.0000         .00   15,000.75   100%
       1752657              KEYBOARD  BELGIUM
            50   9/23/**  0/00/00    0     125     125      0   15,000.0000   .00  15,000.00100%
                          00700  P989107   1   40           12,000.1500         .00   12,000.15   100%
       1752656              KEYBOARD  USA
         1  50   9/23/**  0/00/00    0      50      50      0    6,000.0000   .00   6,000.00100%
       1752656              KEYBOARD  USA
         2  50   9/23/**  0/00/00    0      50      50      0    6,000.0000   .00   6,000.00100%
       1940                 WASHER,FLAT,#10X9/1600X3/64THK
            50   9/23/**  0/00/00    0      10      10      0       .1500     .00       .15100%

                                     VENDOR TOTAL 000002   27,000.1500   .00   27,000.15   100%*
                                     REPORT TOTAL            52,000.9000   .00   52,000.90   100%
```

The report allows a comparison between date last received and date last invoiced. Further comparison is shown for dock, received, and invoiced quantity. Additional information is provided by comparing the received amount, invoiced amount, and the dollar difference to date.

Accounts payable debit memos: The application provides debit memo entry and maintenance, reports, and printing. Each debit transaction is entered on the Order Detail file and is included in the Purchase Order History file. Miscellaneous debits for taxes, rework, transportation charges, and so on are also possible. Optional messages may be added at the time the debit change is initiated.

Purchase order closeout

All purchase orders to be closed must be manually removed from the Purchase Order Status file and placed in the Purchase Order History file. The amount of history retained is at the user's discretion. The Purchase Order History file becomes the basis for vendor performance analysis.

An Orders Selected for Closeout Audit List is shown here.

```
USER ID  SMITH  CO. NAME  ABC COMPANY              PURCHASING        DATE 11/30/**      TIME 16.24.10   AM64I  PAGE 1

                                 ORDERS SELECTED FOR CLOSE OUT AUDIT LIST
----------------------------------------------------------------------------------------------------------------------

ORDER P989150
              VENDOR 000300   CITADEL MFG. CO.     BUYER 00015 J. THOMAS               CONTACT ROGER ALLENSON

              WAREHOUSE 1 REVISION 00  CONTRACT       ORIGIN P  CLOSE TYPE C  HISTORY   PRIORITY 0
EXPECTED ORDER VALUE   46300.00  --------------ORDER DATES-------------   FOB      00
ORDER INVOICED VALUE     463.00  ORDER       11/30/** FIRST PRINT  11/30/**  TERMS    00
EXPECTED FREIGHT                 FOLLOW-UP            LAST REVISION           SHIP VIA 00
ACTUAL FREIGHT                   CONFIRMED            REVISION PRINT          ACTUAL SHIP VIA 00 SHIP-TO ID 000
TAX AMOUNT              .00                           LAST ACTIVITY 11/30/**  SHIP-TO NAME  GATEWAY MFG. CO.
                                 CLOSED      11/30/** LAST INVOICE  11/30/**       ADDRESS 1 381 N. BARFIELD RD
                                 CLOSED CONF          LAST MAINT.   11/30/**       ADDRESS 2 ATLANTA  ZIP  30328

*ITEM DETAILS
   ITEM NO 7362917        DESCRIPTION PLANNAR ASSY            VENDOR ITEM NUMBER

DEPT             --------DATES--------    -----QUANTITIES---    -------$-AMOUNTS-----------  DCK/STK L/T   3
PLANNER    00100 LAST ACTIVITY 11/30/**   DOCK          30      CURRENT UNIT    1500.0000    REVIEW  L/T   5
CONTRACT         LAST MAINTAIN 11/30/**   INSPECTION            EXTENDED PRICE 45000.0000    PURCH   L/T  10
REFERENCE        FIRST RECEIPT 11/30/**   SCRAPPED              REWORK COST                  SAFETY  L/T   2
JOB NO           TO STOCK               STOCK         30      ACTUAL PRICE    1500.0000
LOCATION   R4113 PROMISE       12/23/**   DEVIATION             ACTUAL FREIGHT               DAYS EARLY   23
ACCOUNT     1000 DUE TO DOCK   12/23/**   REWORKED                                           DAYS LATE
MAPICS ORD P989150 DUE TO STOCK 1/04/**   ORDERED       30
REQUISITION R000091 COMPLETION  11/30/**   RETURNED                                          STOCK U/M    EA
COMMODITY        LAST RECEIPT  11/30/**   LAST RECEIPT  30                                   ORDER U/M    EA
```

```
USER ID  SMITH  CO. NAME  ABC COMPANY              PURCHASING        DATE 11/30/**      TIME 16.24.10   AM64I  PAGE 2

                                 ORDERS SELECTED FOR CLOSE OUT AUDIT LIST
----------------------------------------------------------------------------------------------------------------------

ORDER P989150

*REQUISITION DETAILS
   REQUISITION R000086 ITEM NO 2777441    ACCOUNT   1000 REQ NAME CHUCK R.  REVISION 00 CONTRACT     PRIORITY 0

REFERENCE        DEPT           ORDERED    20                   FOLLOW-UP           LAST MAINT. 11/30/**
DAY SINCE REL    JOB NO         REQ U/M   EA  DUE TO STOCK 12/15/**  REQ DATE 11/30/**  DUE TO DOCK 12/12/**

*INVOICE DETAILS
   INVOICE-15678    SEQ-1    INV DESC-          GROSS AMOUNT- 46300.00  LINE ITEM GROSS  46300.00  DUE DATE-
                    CRED NOTE-  ASSIGNEE-       G/L AP-  2000  DISC AMT             LINE DISC TOTAL        11/30/**
                    INV TYPE-   VOUCHER- 00000  G/L CASH- 1050  FREIGHT                DISC-00%  CHECK-000000  INV DATE-
                    COMP CD-  C COMPANY-  01    G/L DISC- 4120      FOB-00  SHIP VIA-00  TERMS-00            11/30/**
                                                                                                 MAINT-
   ITEM#/DESC-7362917    REL NO-00    GROSS AMOUNT- 45000.00  FREIGHT      QTY-           MISC NO-         B
        G/L #-0001000  DISC%-  .00% SUBJ DISC-              DISC AMT-    MAINT- 4/29/** MANUF ORD-    FORCE-

   ITEM#/DESC-2777441    REL NO-00    GROSS AMOUNT-  1300.00  FREIGHT      QTY-           MISC NO-
        G/L #-0001000  DISC%-  .00% SUBJ DISC-              DISC AMT-    MAINT- 4/29/** MANUF ORD-    FORCE-


                                        ***** END OF PRINT *****
```

Vendor performance data is maintained in the Vendor/Item file, the Extended Vendor Master file, and the Order History file. Analysis data is presented independently for each item supplied by a vendor, as well as a composite rating for all items supplied.

The ratings maintained for each vendor-supplied item are weighted moving averages per order and include:

- Number of dollar days early and late
- Overshipment dollars
- Undershipment dollars
- Freight/item
- Reject/review percentage.

The composite rating is an exponentially smoothed average of all orders received by this vendor.

Section 3. Miscellaneous information

System requirements

The minimum system configuration for the applications discussed in this book is an IBM System/36 with:

- 29.1 million characters of disk storage (single disk)
- One system printer, which can be either a line printer or a serial printer
- One work station
- 128K bytes of main storage.

Although there is nothing inherent in the design of MAPICS to prevent the use of the minimum system configuration stated above, the system configuration for a particular customer must be able to accommodate the expected business volumes, data base size, and operating requirements.

Consult your IBM representative for guidance. Refer to "Performance considerations" later in this section for more details.

Programming systems

This System/36 program product is required:

- The System Support Program program product (5727-SS1 or 5727-SS2).

The application programs are written in the System/36 RPG II programming language. Therefore, if you want to make modifications to the application programs, you must also have the RPG II compiler (5727-RG1) and the Utilities program product (5727-UT1) available.

Performance considerations

The features described in this section impact System/36 operational performance. If you plan to install several applications, you may need more than the minimum system configuration.

Main storage

Each application program is designed to execute within a particular minimum main storage size. (The minimum configuration is listed under "System requirements" in this section.)

In some instances, a main storage capacity greater than the minimum required will improve performance. For example, performance can be affected by:

- The number of jobs operating concurrently
- The number of work stations the system allows to operating concurrently on the same job
- The number of work stations concurrently on the same or different applications.

Disk storage

The larger your disk storage, the more information you can store in the system. If you plan to store large volumes of data, you will need a disk storage capacity larger than the minimum required. Then you will be able to expand your files as your business increases.

Printer speeds

A line printer produces reports and listings at a significantly greater speed than a serial printer. If you anticipate heavy printing volumes, you will need a line printer to be used as your system printer. Selecting a printer speed higher than the minimum may also help increase performance. Keep in mind that all work station printers are serial printers.

Accordingly, consult your IBM representative for assistance in determining the optimum main storage capacity, as well as disk and printer selection, for your particular combination of applications and their related volumes.

Offline diskette entry system

If you have departments that need to enter source data, but they are located off the premises (such as across a public thoroughfare), you might consider the addition of an offline diskette entry system. This system allows a user department to enter information offline onto diskettes. The diskettes can then be delivered to your system console operator for processing in batch mode.

IBM's educational programs

To prepare you to use the applications, education is offered for installation managers, operators, and users of manufacturing applications.

For the installation manager

- *Computer Concepts*—Introduces the manager to computer concepts, controls, and procedures. This course lays the foundation for the transition from your present approach to a data processing system. This course is offered through the Guided Learning Center.

- *Installation Planning and Management*—To be be taken after Computer Concepts. The basic planning tasks involved in preparing for a computer installation are discussed, as well as day-to-day system operations. This course is offered through the Guided Learning Center.

For work station (or display station) operators

- *System/36 Display Station Operator Training*—This self-study course introduces the work station operator to the operating tasks of a work station. Exercises are included that demonstrate sign-on and sign-off procedures, selecting jobs, and entering data into the system.

For system operators

- *System/36 System Operations*—Introduces the system operator to the operating characteristics of a System/36 console. Exercises are included that demonstrate the use of spooling, multiprogramming, and system utilities. This course is offered through the Guided Learning Center.

Check with your IBM marketing representative for a complete list of Guided Learning Center courses. Your marketing representative can also provide a list of seminars conducted at the IBM Customer Center.

Application education

Check with your IBM marketing representative for a list of specific application education courses taught by the Manufacturing Industry Support Center.

- *MAST (Modular Application System Training)*—Separate self-study modules covering all of the manufacturing applications from general executive overviews and concepts to the detail of implementation.

- *MAPICS Operator Training*—Included with each of the MAPICS applications is hands-on self-study operator training for both the work station operator and the system operator.

IBM's installation guidance

An Installation Made Easy workbook and an application reference manual that describe planning and installation activities in detail will be available to you. Here is a brief description of the process.

Installation considerations

With complete understanding of the responsibilities of each participant in the installation process, installation planning can help make the installation and operation of your IBM applications smooth and successful. The system is designed to relieve you of many of the tasks normally associated with installing a data processing system.

You can receive installation guidance from IBM. However, certain tasks are your responsibility, such as the accurate and timely conversion of your present data to the format required for your application. Paying close attention to these responsibilities is the key to a successful installation.

Installation and conversion aids

To make it easier to install your system and convert your present data into the machine-readable form required by the IBM System/36, the application includes these aids:

- A special procedure that loads into the System/36 the general-purpose procedures necessary for regular processing operations.
- A procedure for users of System/34 and System/36 MAPICS to convert their files to System/36 MAPICS II.
- File maintenance procedures that:
  - Load your master file data into the System/36.
  - Edit the master file records and delete any erroneous ones. When editing is complete, the master files are available for processing.
  - Let you print the contents of the master file records for review at any time during the loading process.
  - Let you enter data records into your system either directly through the System/36 work station or from diskettes prepared on an offline diskette data entry system.
- File-sizing procedures that:
  - Allow you to specify the number of records in your master files (number of customers, items, invoices per day, and so forth).
  - Determine whether your files will fit in available disk storage. You receive a listing that shows how the available disk storage would be allocated if these sizes were used.
  - Allow you to alter the sizes of the master files whenever needed. A new listing is printed each time a new set of sizes is entered.
- System tailoring procedures that let you tailor the applications to fit your needs:
  - The costing factors and methods you want to use.
  - Your company name to print in report headings.
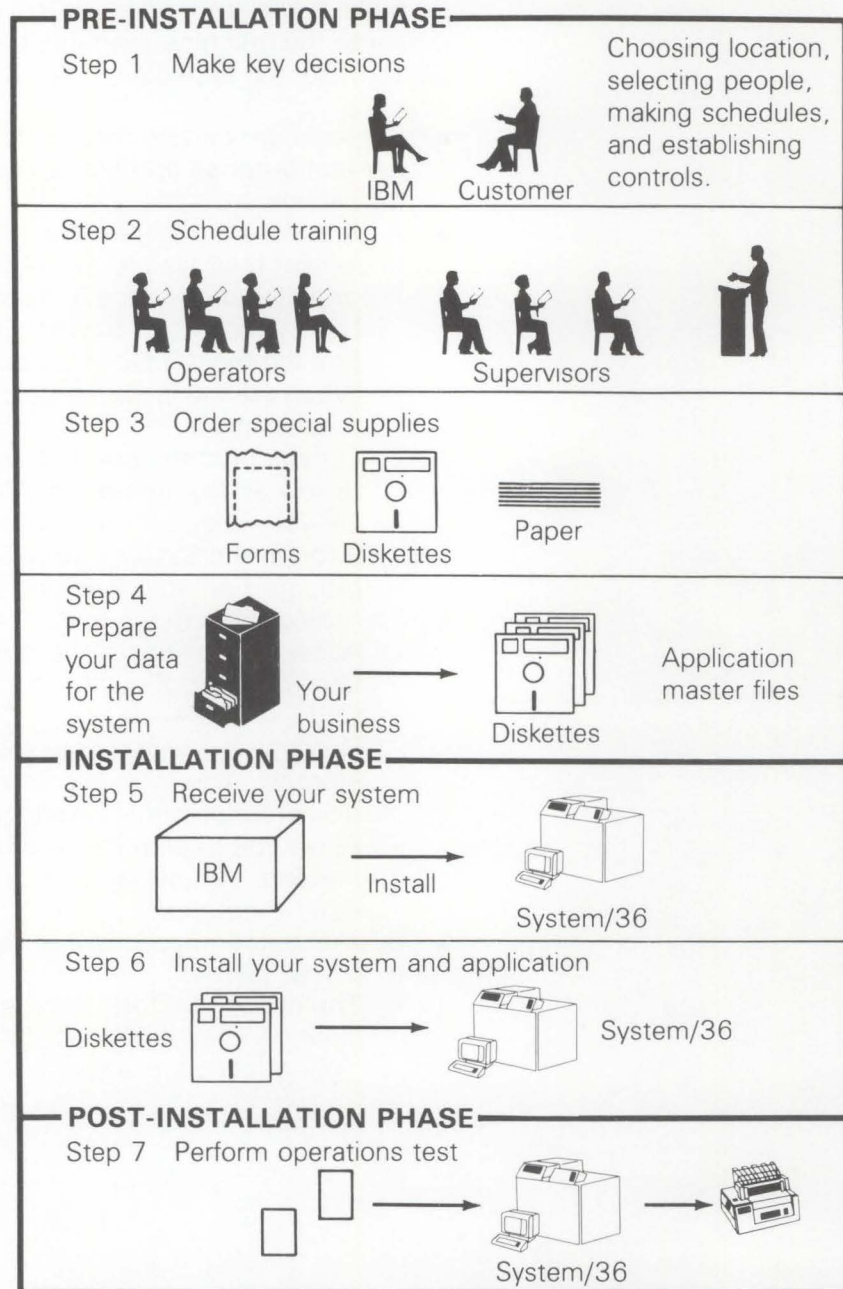 - Your application security codes.

System installation is divided into three phases: pre-installation, installation and post-installation. Pre-installation consists of activity that must be done before your System/36 and the application(s) are installed. Key decisions must be made as to where to place the computer and work stations, who will operate them, who will provide the information for processing, and who will use the reports produced. Training must be scheduled for the operators, as well as for other people you will work with, so that the system will be used effectively. Supplies necessary for running the System/36 and your application must be ordered. Data must be collected and prepared for entry into the system.

The installation phase begins when the System/36 and the first applications are delivered, and ends when the last application is operational.

Post-installation consists of performing operations tests. When the testing is completed and you have proved that the system works in your operating environment, you can change over to total use of the new system.

Installation activities

PRE-INSTALLATION PHASE

Step 1   Make key decisions

IBM   Customer

Choosing location, selecting people, making schedules, and establishing controls.

Step 2   Schedule training

Operators   Supervisors

Step 3   Order special supplies

Forms   Diskettes   Paper

Step 4
Prepare your data for the system

Your business

Diskettes

Application master files

INSTALLATION PHASE

Step 5   Receive your system

IBM   Install   System/36

Step 6   Install your system and application

Diskettes   System/36

POST-INSTALLATION PHASE

Step 7   Perform operations test

System/36

Customer responsibilities

As an IBM customer, you can receive technical guidance both during and after installation of your system, but *you* are responsible for these activities:

■ **Select and train system-related personnel**—You need to select and train someone who will be responsible for coordinating all System/36 operations and the people who will operate the system on a day-to-day basis.

■ **Select applications and plan for implementation of optional features**—You must choose which applications to implement, and you determine the sequence of their installation. You must also select which optional features to use with the applications (system tailoring) and understand the interaction between applications.

■ **Develop installation schedule and checklist**—Once you have decided what must be done, it is a good idea to work out a schedule for starting and completing each installation activity. This schedule is useful in assigning tasks to individuals in your company.

■ **Order special supplies**—You will need to obtain special supplies for your System/36: report binders, diskettes, ribbons, preprinted input (source) documents, stock paper, preprinted (output) forms for invoices, acknowledgments, statements, and other miscellaneous items.

- **Train user departments**—It is important to educate the personnel in your company who will be affected by the system, particularly those who will be entering data for processing and those who need to understand and use the reports that are produced.

- **Prepare the physical site for the computer** —You will need to prepare space for the System/36, the work stations and system console, as well as provide storage space for computer output, a diskette library, and computer supplies.

- **Gather data for the master files required for your applications**—Gathering the data can include establishing employee or vendor numbers and preparing other master data for each master record required by the applications being installed. Be sure to check all data for completeness, accuracy, and correct formats.

  If you intend to load the master file data into the System/36 using data entry diskettes prepared on an offline diskette entry system, you need to make plans for such diskette preparation prior to system installation. If you intend to enter the master file data at the System/36 work station, have all the data input forms ready when the system arrives.

- **Plan for parallel or pilot operation**—You should plan to conduct either a parallel or pilot run of your new system. In a parallel operation, both systems process current data. In a pilot operation, the System/36 processes data from a previous period while current data is being processed using the old system. In both methods, you compare the results against the controls for the appropriate processing period.

- **Direct all system operations**—Both before and after the System/36 is installed, you will need to supervise all system operations, including reviewing input documents and directing your operators in their daily tasks—taking control totals, running the System/36, starting the application procedures, verifying results against control totals, and distributing system output.

- **Coordinate conversion and perform system test operations**—After the system is installed, you should supervise the loading of master files, testing of system operations, and verification of processing results.

File loading and file maintenance operations

File loading and file maintenance are two separate and distinct functions that use the same procedures and facilities.

File loading, done initially when the system is installed and periodically as needed, lets you enter records into the master files.

File maintenance, done whenever necessary to change information in existing master files, lets you enter or change individual fields within records or add new master records.

Figure 3-1 shows how information flows through file loading and file maintenance operations. The numbers in the following discussion refer to that figure.

Loading and changing master files

You load files in one of two ways. The first way **1** involves keying the records onto diskette using an offline diskette entry system, then processing the diskette on the System/36. The second way **2** involves entering the records through a work station. In the second method, file loading occurs online. As records are entered and edited, they are immediately added to the master files and made available for use by other jobs.

File maintenance (changing the files) is always performed using online data entry at a work station.

If you desire, listings can be printed **3** showing a "before" and "after" version of each record changed.

Reviewing contents of the master files

On request, the system can print file lists **4** that you can use to make certain that the information in the master files is accurate and up-to-date.
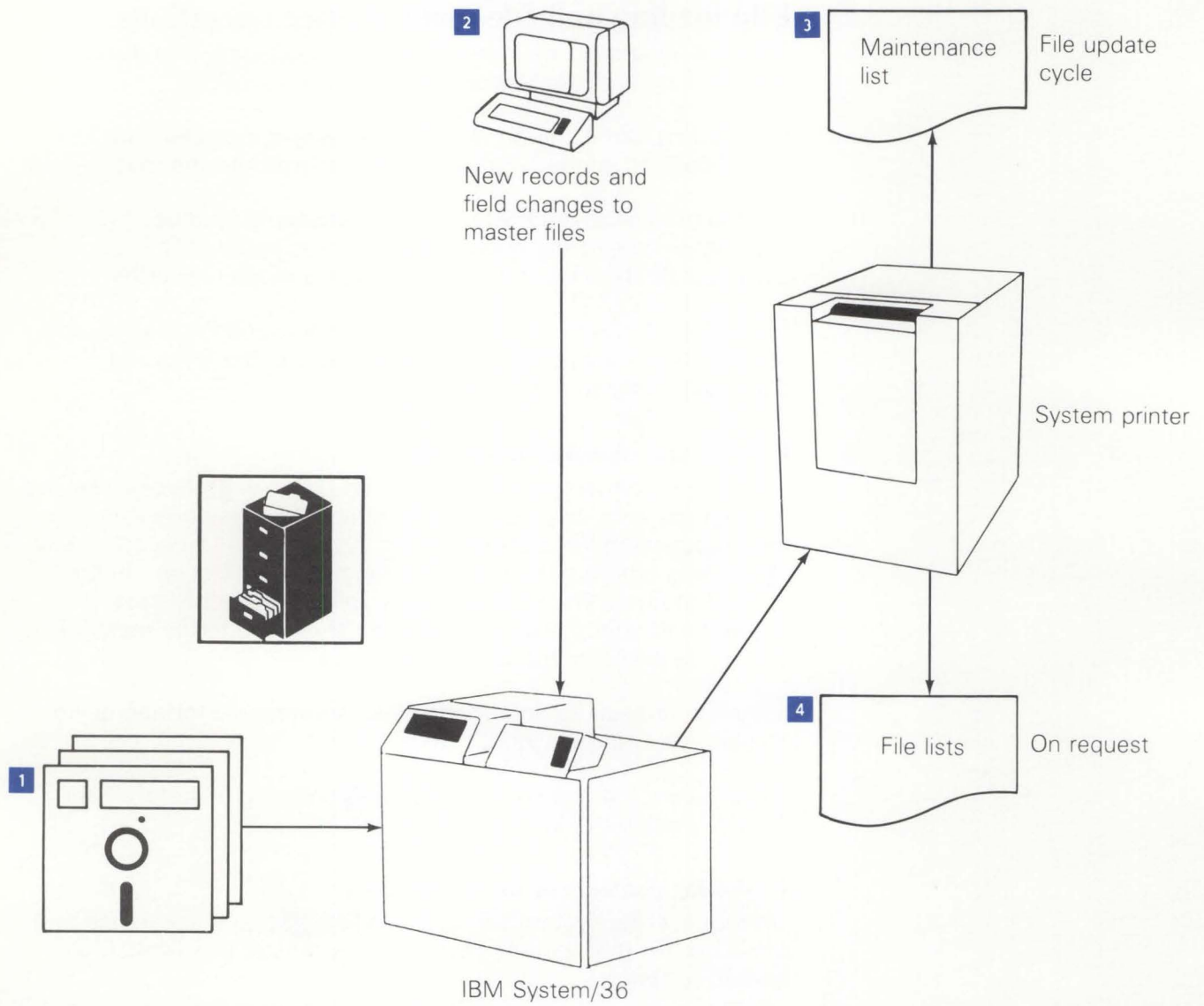
2

New records and
field changes to
master files

3 Maintenance   File update
list   cycle

System printer

1

4   File lists   On request

IBM System/36

Figure 3-1. File loading and file maintenance information flow

The data base

An application system maintains and uses a number of system- and application-oriented files and records.

In this section, references are made to *fields*, *records*, and *files*. If you are unfamiliar with these terms, a brief explanation at this point might help:

Field
A place to store a discrete piece of information, such as a name, a code, or a rate. For example,

Americus Steel

is the contents of a name field in your customer record.

Record
A group of related fields that contain data pertaining to one customer or one item. For example, a customer record may contain:

Americus Steel   702 McGarrah St.   Americus, GA and so on.

File
A file contains one or more records of a similar type. For example, the customer file might contain master records for:

Americus Steel
R. S. Armstrong and Bros. Co.
Carlton Company

Master files

Each application uses various master files. The major required files, by application, and some important characteristics of each are listed here.

Order Entry and Invoicing

Customer master file

- Contains one record for each customer.
- Descriptive data: name, address, city, state, credit limit.
- If Accounts Receivable is installed contains control balances by age period; whether balance forward or open item.
- Contains billing data; standard taxes, discounts available to this customer.

Ship-to master file

- One record per standard ship-to address per customer.
- Standard ship-to address, city, state.

Contract price file

- One record per contract per item number.
- Accumulated sales-to-date on this contract.
- Expiration data—date, quantity limit.

Quantity price file

- One record per item number with quantity price breaks.
- Break quantity and discount percentages.

Taxing body master file

- One record per billing taxing body.
- Descriptive data; tax body name, tax rate expressed as a percentage.

Open order summary file

- One record per order.
- Descriptive data about the order.
- Points to detail data regarding the order in the material detail file.

Open material file

- One record for each line item, comment and special charge item on an order; one record for each blanket purchase order release, and one record for each manufacturing material allocation.
- Line item data includes item number, quantities, price overrides.
- Records are ''linked'' to the appropriate item balance record if Inventory Management is installed; otherwise the records are ''linked'' to the item master.

Inventory Management

Item master file

- Contains one record for each unique item number.
- Descriptive data about the item (description, standard unit cost, base price, six markup or discount percents, item tax codes).

Item balance file

- Contains one record for each unique item number per warehouse.
- Shows quantity information

Purchase Order Summary file

- Contains one record for each line item on a purchase order.
- If item ordered is a blanket order item, the record points to release information in the Material Detail file.

Location/Lot Management
Location Quantity

- One record for each location/item/lot/FIFO date combination.
- Contains the total quantity of a unique item/batch/lot at a unique location.

Location Item Master

- One record per item (inventory and non-inventory)
- Records are "linked" to location detail information.

Location Detail

- One record per warehouse/location combination.
- Records are "linked" to Location Item Master and Location Quantity files.
- Controls location environment (multiple batch/lots and/or multiple items).

Transaction History

- One record for every transaction that affects quantity on hand or quantity control status.
- Contains information that allows follow-up on any order, item, or batch/lot.

Goods Received Notes

- One record for each Goods Received Note.
- Contains receipt date, invoice date, and invoice number.

Allocation

- One record for each item/batch/lot that has been allocated.
- Contains quantity of this item/batch/lot that has been allocated to a specific customer or manufacturing order.

Accounts Receivable

Open AR detail file

- Contains one record for each unpaid invoice, cash and adjustment transaction and in the case of balance forward accounts, also contains a record for each age period with an amount due.
- Invoice records show amounts, dates, cash discount allowed and percent, etc.
- Records are "linked" to customer master records and are also linked in sequence.

Sales Analysis

Salesman master

- Contains one record per salesman.
- Historical data about the salesman, dollar volumes.

Customer summary file

- Contains one record for each customer.
- Historical sales data regarding the customer.

Item sales summary

- Contains one record per item selected for Sales Analysis.
- Historical sales data regarding the item.

Sales Analysis interface files

- One interface file each for customers, items and salesmen.
- Each interface file contains a record for the current period activity for the customer, item or salesman.
- Each record contains period-to-date sales and cost figures

Purchasing

Buyer Master

- Contains one record per buyer.
- Each record includes information such as name, department, phone number, days early or late, items under or over shipped, average orders/day, and vendor rating.

Vendor Master

- Contains one record per vendor.
- Each record includes name, name abbreviation, address, phone number, contact person, accounts payable amount calculations, discounts, and last payment date.

Purchase Item Master

- Contains one record per item.
- Each record includes information such as buyer number, commodity code, ship via code, automatic release information, tolerance percentages, weighted averages, lead times, and item class.

Warehouse-Ship-to

- Contains one record per warehouse and ship-to ID combination.
- Each record includes ship-to information, such as, name, address, telephone number, name abbreviation, and contact person's name.

Standard Message

- Contains one record per message number.
- Each record includes sequence number, message text, and effectivity starting and ending dates.

Extended Vendor

- Contains one record per vendor.
- Each record includes detailed information, such as, terms code and description, average vendor rating, last vendor rating, multiple ship-to blanket order, and multiple lines on purchase order flags.

Required (R) or Optional (O) Master Files

	OE & I	IM	L/LM	AR	SA	PUR
Customer Master	R	—	—	R	R (1)	—
Ship-to Master	O	—	—	—	—	—
Contract Price	O	—	—	—	—	—
Quantity Price	O	—	—	—	—	—
Tax Body Master	O	—	—	—	—	—
Open Order Summary	R	R	—	—	—	—
Open Material	R	R	—	—	—	—
Item Master	R	R	R	—	R (2)	—
Item Balance	—	R	R	—	—	—
Open A/R Detail	—	—	—	R	—	—
Salesman Master	—	—	—	—	R	—
Customer Summary	—	—	—	—	R(1)	—
Item Summary	—	—	—	—	R(3)	—
Buyer Master	—	—	—	—	—	R
Vendor Master	—	—	—	—	—	R
Purchase Item	—	—	—	—	—	R
Warehouse Ship-to	—	—	—	—	—	R
Standard Message	—	—	—	—	—	R
Extended Vendor	—	—	—	—	—	R

Notes:

1. Required if OE & I or AR is installed
2. Required if IM is installed
3. Required if OE & I or IM is installed

System control file

The System Control file provides a special place to store relatively unchanging information that is used by more than one procedure or program. This arrangement permits you to change such information as percentages.

Among the important contents of the System Control file are:

- Internal control information needed to run your application system (ranges, dates, limits, percentages, and so on)
- User-selected system tailoring options
- File-sizing data.

Other files

You will use several transaction files for daily processing of data, and backup files to retain all master files on diskette for storage in a safe place.

Many other files and records are for internal system use only (work and summary files, sort files). These are not described here.

Permanent and temporary files required for an application procedure must be stored on the System/36 disk before that procedure can run. All master files and application files are part of the permanent disk storage area. The remaining disk storage is then allocated for temporary areas.

Major field sizes

The following is a list of the major data fields used in the applications discussed in this book. For each field, its maximum size is indicated, as well as whether it is restricted to numeric information or may contain alphameric information. The number of decimal positions is shown for numeric fields. You can use this list to help determine whether these applications meet your data field requirements.

	Size (including decimals)	Alphameric/ numeric	Decimals
Customer number (1)	8	N	0
Customer name	25	A	–
Company number	2	N	0
Invoice amount/1 invoice	9	N	2
Extended price/1 item	9	N	2
Amount due/1 customer	9	N	2
Yearly sales/1 customer	9	N	2
Taxing body code	2	A	–
Salesman number	5	N	0
Item number	15	A	–
Item description	30	A	–
Item list price	9	N	3
Unit cost/1 item	11	N	4
Standard cost/1 item	11	N	4
Last cost/1 item	11	N	4
Warehouse	1	A	–
On-hand quantity/1 item (2)	7	N	0
General ledger number	7	N	0
Buyer number	5	A	–
Location number	10	A	0
Batch/lot number	10	A	0

Notes:

1. The last two digits of the customer number must be 00 or used to denote consolidated companies (see multiple statements for consolidated companies in Accounts Receivable functions).
2. Separate fields are carried for each item in each warehouse.

Glossary

ANSI definitions courtesy of American National Standards Institute, Inc. ISO definitions courtesy of International Organization for Standardization.

alphameric
A term encompassing alphabetic characters, numeric digits, or special characters.

application program
A program used to do a particular data processing task; for example, a program that prints invoices.

backup diskette
A diskette that contains information that was copied from another diskette or disk.

batch mode
A method of running jobs that do not require continuous operator attention; that is, processing that is not interactive. Contrast with interactive processing.

byte
The machine representation of a character.

call
The action of bringing a computer procedure into effect by specifying the required name and desired run-time option.

command function key
One of the keys in the top row of the display station keyboard, used with the CMD key, to request specific functions from the system or application program.

command key (CMD key)
A special key on the display station keyboard that, when pressed, causes the system to recognize the command function keys in the top row. See command function key.

concurrent processing
A method of processing in which two or more jobs appear to be processing at the same time. Actually, the instructions of each job are processed one at a time, alternating to make the most efficient use of the system.

configuration
The group of machines, devices, and programs that make up a data processing system.

control command
A command statement used by an operator to control system or display station operation. A control command does not run a procedure.

data
(ANSI definition) A representation of facts, concepts, or instructions in a formalized manner suitable for communication, interpretation, or processing by humans or automatic means.

data base
A collection of stored data.

dedicated
One mode of operation of a privileged procedure; requires that it be the only procedure executing, because of system restrictions or function of the procedure.

default
An alternate value, attribute, or option that is assumed when none has been specified.

device
Synonymous with machine.

disk file
An organized collection of related records on disk that are treated as a unit.

disk storage
Direct access storage that uses one or two magnetic disks to store programs and data files.

display screen
The part of a display station on which data, messages, or other information is displayed.

display station
An input/output device that has a keyboard for data entry and a display screen on which data is displayed.

error message
(ANSI definition) An indication that an error has been detected. Contrast with informational message.

execute
To cause an instruction, program, procedure, or other machine function to be performed.

field
A place to store a discrete piece of information, such as a name or a code.

informational message
A message that is not the result of an error condition. Normally, an informational message gives the status of a job or operation. Contrast with error message.

initial program load
A sequence of events that loads the system programs and prepares the system for execution of jobs.

input data
(ANSI definition) Data to be processed. Synonymous with input.

input job queue
A list of jobs on disk that are waiting to be run by the system.

input/output
(ANSI definition) Pertaining to either input or output or both.

inquiry
The requesting of specific information from the System/36 via a display station. To make the request, the operator enters data that identifies the information. For example, a customer number is used to request the information contained in the customer's master record.

interactive
A mode of operating the System/36 in which information is entered through a display station, acted upon by the computer, and the computer returns a response to the display station.

interface
(1) The hardware and programs that permit exchange of information between computer systems or among devices. (2) The facility to allow information to pass from one application to another (for example, OE & I information to A/R).

keyboard
A systematic arrangement of keys, attached to a display station, by which commands and data are entered into the system.

library
An area on disk that contains programs and procedures.

line printer
A device that prints all characters of a line in one single operation.

load
(1) To enter data or programs into storage; for example, to load master files. (2) To prepare an input/output device for operation; for example, to load paper into a printer.

main storage
Storage available in the processing unit where all logical, arithmetic, and control operations take place under program control.

master file
A collection of permanent information; for example, a customer file that is often processed along with a transaction file.

menu
A displayed list of items from which the operator makes a selection.

message
A series of works or symbols appearing at the bottom of the display screen, designed to convey information to the operator about the accuracy of data being entered.

message identifier
A field consisting of up to four alphabetic characters, followed by a dash, followed by a four-digit number that appears on the display screen or on printed reports. This field identifies a specific message to the operator.

mode
Synonymous with method of operation.

numeric
Pertains to digits 0—9.

offline
Pertains to equipment or devices not under control of the central processing unit.

online
(1) Pertains to equipment or devices under control of the central processing unit. (2) Pertains to a user's ability to interact with a computer.

operation control language (OCL)
A programming language used to identify a job and its processing requirements to the system support program product.

output
Data delivered or ready to be delivered from a device or program, usually after some processing.

paging
Displaying the records in a file in sequence on a display station. Using this facility, an operator can read through an entire file rather than just seeing one set of information, as is done when inquiry is used.

privileged procedure
A procedure that updates permanent files and is subject to strict procedure control. Contrast with general procedure.

processing unit
The parts of a computer that perform the processing and control functions for the system, perform operations on data, and control the output.

program
(1) A sequence of instructions to a computer, written in a special form the computer can interpret. A program tells the system where to get input, how to process it, and where to put the results. (2) A set of instructions that tells the system which operations are to be done and how to do them.

program product
An IBM-written, licensed program for which a monthly charge is made. A program product performs functions related to processing user data.

prompt
A message issued by a program that requests either information or an action by an operator to continue processing.

record
(Noun) A collection of related data, treated as a unit. For example, one line of an invoice could constitute a record.

record key
A field within a record that identifies the record in a file.

record length
The total number of characters (bytes) in a record.

serial printer
A device that prints characters one at a time. Contrast with line printer.

session
The elapsed time from user sign-on to sign-off.

session date
The date associated with a work station session. If a session date is not entered the system assumes (default to) the system date. See **system date.**

shop order
A number that identifies a manufacturing or assembly order.

shop packet
The necessary documents for a shop order.

sign-off
The procedure used to end a session at a display station.

sign-on
The procedure used to begin a session at a display station.

special character
A character other than alphabetic or numeric; for example, * + % are special characters.

spool file
An area on disk where spooled printer output is stored while waiting to be printed.

spooling
A part of the system support program product that provides temporary storage of print data on disk, and allows printing to take place concurrently with other tasks.

system configuration
A process that specifies the various components and devices that form a particular operating system. System configuration combines user-specified options and parameters with IBM programs to produce a system having the desired form and capacity.

system console
A display station that performs as a work station at the central processing area, and is designated to activate certain system functions, and control and monitor system operations and other work station operations.

system date
The date assigned by the system console operator during the initial program load procedure. Generally, the system date is the same as the actual (today's) date. See **session date.**

system printer
A printer, either line or serial type, designated when the system is installed, that is used to print output, unless the output is specifically directed to a work station printer. Contrast with work station printer.

system tailoring
The process of selecting from available program options to satisfy the specific needs of your company.

transaction
An item of business. Customer orders and customer invoices are examples of transactions. Transactions saved in a transaction file are usually processed along with a master file by RPG II, WSU, or DFU programs. For example, in the Inventory Management application a transaction file could indicate the quantity received on an order and the master file could indicate the current on-hand position.

update
To modify a file with current information according to a specified procedure.

user ID
A special assigned number keyed in by each operator at sign-on. The System/36 checks this number against a security list to be sure that the operator is authorized to use the system.

work station
A device or component that allows communication between the user and the computer—a display station, a serial printer, or a combination of both constitutes a work station.

work station printer
A serial printer, designated when the system is installed, that is used to print work station output. Contrast with system printer.

IBM System/36
Manufacturing Accounting and
Production Information Control System
Version 2 (MAPICS II)
Introducing Order Processing & Accounting Applications
Order No. GH30-9005-2

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