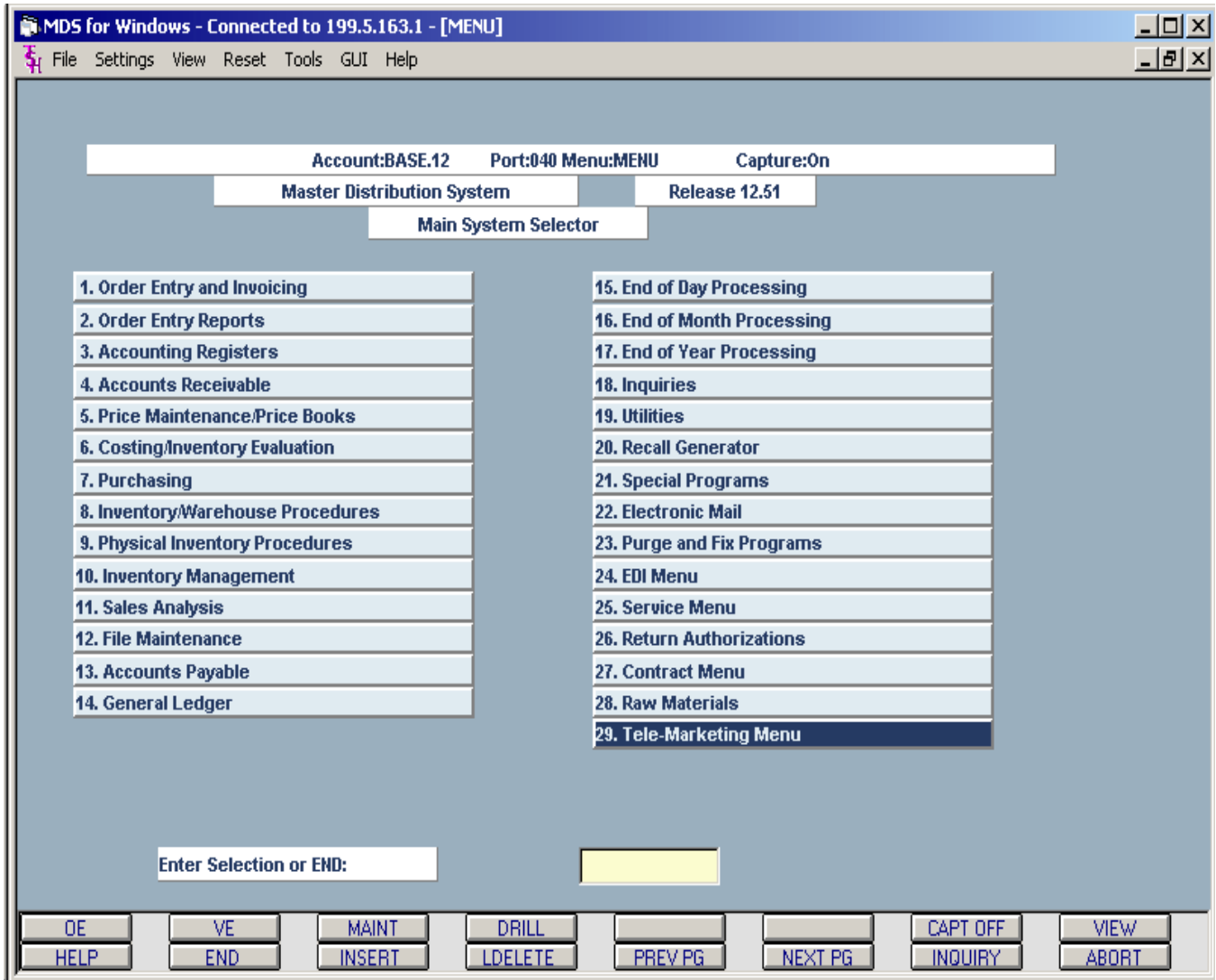


I. INTRODUCTION TO MDS

THE SYSTEMS HOUSE, INC. MASTER DISTRIBUTION SYSTEM PRODUCT DESCRIPTION

MAIN SYSTEM SELECTOR



I. INTRODUCTION TO MDS

A. Company History

The Systems House, Inc., was founded in March of 1979, and has been servicing the application software and support needs of distributors, importers, and supply houses since its incorporation. Today, The Systems House, Inc., is one of the premier distribution/supply software houses designing, installing, and supporting customers utilizing our Master Distribution System (MDS).

TSH has in excess of 250 installed MDS clients throughout the United States and Canada. Our technical staff is cross-trained in all aspects of the system operation, thereby allowing TSH to provide complete customer support on every aspect of the system. These services, available on a twenty-four hour per day, seven day per week basis, include operating system (Unix and Windows/2000/NT), network, data base management, as well as application program support. We therefore provide our customers a "one stop" source for all system needs. In addition, we provide application software design, programming and conversion services, network design, consulting, education, installation and implementation services -- virtually every aspect of information management service -- **all from a single source -- The Systems House, Inc.**

Complete distribution solutions comprise three major elements: software, service/support, and hardware. TSH has set the standard for distribution solutions by concentrating on each of these very important elements.

B. Master Distribution System

Comprehensive distribution systems are not built overnight, or even over a couple of years. The Master Distribution System (MDS) developed by The Systems House, Inc. (MDS) has been and continues to be in constant development since 1979. With virtually every new client, we get fresh ideas and suggested enhancements to our product. We also view it as our responsibility to satisfy the needs and requirements of the Distribution Industry as they evidence themselves. Our development committee meets monthly, and with customer input, decides which features should be incorporated into the product. TSH is committed to remain in the forefront of the innovative solutions distributors to remain competitive in the 21st Century.

Master Distribution System (MDS) is an integrated Distribution Management System, designed to operate in a multi-company, multi-warehouse environment. It incorporates every phase of business activity from Purchasing and Inventory Management, Order Processing and Warehouse Management to Accounting through to General Ledger. Faxing, imaging, as well as document and report storage and retrieval capabilities are integrated into the product. Full support of the EDI X.12 standard is provided. Its strength lies both in its product scope and capability as well as its unique modular design which allows for customization, while maintaining system integrity

As a result of over 20 years of continual development, MDS is a mature product with enormous product breadth -- yet it provides a totally modern interface to the end-user. Windows compliant, it provides the GUI interface look, feel and ease of navigation inherent in a Windows based client desktop. Features such as mouse and cursor navigation, on-line "help", field by field inquiry, and word processing style editing are integral to the software. Yet the application can support ASCII terminals as well as PC's in any mix

I. INTRODUCTION TO MDS - (continued)

B. Master Distribution System - (continued)

MDS is designed to operate as part of a fully integrated system. It incorporates many specific features not typically found in general distribution products. Features such as comprehensive pricing structures with extended rebate tracking, customer order templates, rentals, consignments, standing orders, warranty tracking, remote order entry capability, client purchase order entry system, and full EDI implementation of the X.12 standard. These specific features reflect the breadth and maturity of the MDS product that have made MDS the system of preference for many leading distribution companies.

In addition to the base system modules, MDS offers users and management the power and flexibility of extensive ad hoc query and report generation utilities. Additional MDS modules include:

- RemoteNet – an Internet based Customer Information System - fully integrated to MDS.
- Interface to third party Shipping Systems - including UPS Online and Clippership.
- Interface to the VsiFax fax server.
- Production Management (including Multi-Level Bill of Material).

C. MDS Design Objectives

Four key objectives guided the development of MDS:

1. Provide a complete and integrated Enterprise-wide system
2. The MDS Toolset - Our Commitment to Modern Standards
3. Provide a system that is adaptable and expandable - Object Oriented Design
4. Provide Complete Audit Trails and System Controls

1. Complete System

Contained in MDS are the modules needed to perform the day-to-day operational functions of a company (such as order entry, invoicing, inventory control, purchasing and accounts payable). These modules are designed to provide the accounting information needed to report on the performance of the corporation, and to serve as a tool for management to direct future activities of the organization.

All too often, computer systems are developed to solve a particular problem in the organization, such as order entry. It is only after much effort and dollars have been expended that it is discovered that adequate accounting information is not being generated. Similarly, many accounting packages are available, but rarely do they fulfill the operational needs of the corporation. The integrated approach taken with MDS assures that the needs of operating management are provided by the system, and that the necessary accounting information is generated in a complete and consistent fashion.

This approach also insures that the resultant data base contains all the information that distribution companies need to properly manage their business. The Inquiry Package provided with MDS provides quick access to the information most important for decision making. In addition, since the database is SQL and ODBC compliant the user has the option of using any of the many third party query tools to access the data base.

I. INTRODUCTION TO MDS - (continued)

REPORT CAPTURE SCREEN:

MDS for Windows - Connected to LOCALHOST - [SS5.REPORT.MASTER012φ1]

File Settings View Reset Tools GUI Help

Report Master - Report Summary CAPTURED

User : sf Archive :

#	Report Name	Date	Time	Size	St
1.	Open Orders by Customer	09/23/01	03:01:03	55321	
2.	Stock Status--Sales Report	06/13/01	10:59:34	105540	
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					

Enter Line# to View, DELETE to Delete or END : XXXXXX

All Rpts Range DelRange Common User Copy Flat EMail
HELP END INSERT LDELETE PREV PG NEXT PG INQUIRY ABORT

1. **INTRODUCTION TO MDS** - (continued)

2. **The MDS Toolset - Our Commitment to Modern Standards**

Like all software systems developed in the early 80's, MDS was conventionally written using the available second generation tools. While this maturity provided MDS with maturity and product breadth -- the end-user interface lacked many of the more modern features becoming available in the newly available Windows based systems.

Beginning in the late 80's, TSH embarked on a complete rewrite of the MDS software, using internally developed fourth-generation tools, and incorporating the evolving standards of the Windows world. This development effort was accomplished in several phases:

A. **Application Master - Character based 4GL**

The first phase of our redevelopment effort was the implementation of TSH's Application Master (AM) software system. Application Master is a screen oriented development system which allows programmers to develop input program "on-line". The system enforces program standardization with regard to program and end-user interface. The system provides:

- Mouse and Cursor navigation
- Ability to jump from one program to another and return
- On-line "help" on both a program and field level
- Inquiry capability of all table based fields
- Word processing style editing on every alphanumeric field in the system.
- Standardized function key assignments to access:
Help - End - Insert - Line Delete - Page Forward and Back - Inquiry - Abort
- Second row of function keys available definable by application.
- Specialized inquiry tools such as field highlights for **Drill Down** capability

B. **Screen Master - GUI based desktop for MDS**

The second phase of the MDS re-development process was the development of Screen Master, a PC based GUI interface for MDS. Designed to work in conjunction with Application Master, Screen Master, written in Visual Basic, provides the Windows look and feel, and mouse navigation inherent in a Windows based client desktop.

C. **MDS Utilities - Report Capture**

TSH is committed to providing its users with interfaces to the evolving modern technologies. Thus MDS users have the ability to E-mail, fax, and download any report or document (i.e. PO) or the system. (EDI is also part of MDS, but is really a programming standard rather than a generalized reporting capability).

To facilitate many of these capabilities, TSH developed its Report Capture Module to work in conjunction with the other MDS utilities. Report Capture incorporates the following significant features:

C. **MDS Utilities - Report Capture** - (continued)

1. **Private Spooler** - Report capture provides each user with their own private report spooler. Thus each user can see a list of only the reports they created. Spooler accounts can also be set up by department, and by function. For example, all end-of-day are segregated in a separate user, as are the various end-of-period procedures.
2. **Report Viewer** - Report Capture allows the user to view the report on the screen, search for a particular customer or product, or page to a specific point in the report, or to the end of a report. Thus an report is transformed into an inquiry as well. It is also no longer necessary to print a report, if only seeing the report totals is desired.
3. **Report Download and Flatfile creation** - Report capture allows the user to create a flatfile and download any report to a PC file or program, including Excel. This allows the user to make use of the reporting capabilities of these modern tools, without need for programming. Utilities are provided to allow the user to define the areas of the reports to be skipped (i.e. headings), and where to define the separate data fields so that a tab delimiter can be inserted. In this way the file can be automatically imported into Excel or other field oriented program.
4. **E-Mail of Reports and Documents** - Report Capture also provides the capability to E-Mail any report directly from the system. Thus reports can be automatically distributed to a sales force or to customers.
5. **Interface to CD-Rom Archive System** - Report Capture has the ability to write an exact copy of selected reports to a CD-Rom. In addition, these reports stored on CD-Rom can be retrieved by Report capture for future review, screen examination, and printing.
6. **ODBC Interface** - The MDS database has been ODBC enabled, and is therefore available for inquiry using any ODBC complaint reporting tool such as Excel or Crystal reports.

D. **MDS Utilities - Report Selection**

MDS incorporates a generalized report selection “front-end” that can be implemented with any of the MDS reports. It allows the user to easily establish up to 8 selection criteria for any MDS report. For example, the open order report by customer can be tailored to allow the user to select a single or a range of customers, products or dates.

Similarly, the Stock Status report can select one or more warehouses, a range of product classes, or a range of products.

Together with report capture and its display and download capability, this capability provides the end user with flexible reporting and inquiry tools access to the database.

3. **Object Oriented Design**

One of the strengths of MDS is its unique modular approach (referred to as Object Oriented Programming) taken during the design of the product. The following will explain MDS's modular approach. It is common practice in the computer industry to develop a "package" from a series of program modules such as order entry, invoicing, accounts receivable, etc. In MDS, this concept has been taken to a much finer degree. The functions that each program must perform has been broken into a series of elements (i.e., in order entry pricing, discounting, commissions).

The specific functions (inputs, outputs, and calculations) that each element must perform have been defined and documented to form a programming standard. What results is a series of interchangeable elements (or modules) that performs the same function (say pricing) but are designed to handle the needs of different customers or industries. The major benefits of this approach are:

- A. The same coding can be used in all programs that perform the same function (i.e., pricing in order entry, invoicing, and credit memos). Once a new method has been defined, it can quickly and efficiently be inserted in all programs requiring this logic. A change to one element results in a change to all programs requiring that element.
- B. This approach simplifies and reduces ongoing maintenance costs, and allows the system to respond to the changing needs of the company. And because TSH is the developer of MDS, you receive the comfort and assurance of TSH's demonstrated ability to design, implement, and support these customized solutions

4. **Audit Trails and System Controls**

Too many software systems ignore the needs for complete system control and security measures. In MDS:

- A. All modules produce complete audit trails to enable the tracking of all transactions that affected the balance of a data item (such as inventory on hand or accounts receivable balance). Daily and monthly control totals are developed for all accounting and inventory transactions to insure system integrity.
- B. Security has been addressed through the use of password/authorization files, which validate each individual's access to each procedure. In addition, where an operator override has changed the normal action expected from the system (such as the override of a credit stop), the information is logged in a security file to insure proper accountability.

On the following pages, a brief overview of each subsystem is presented highlighting the functions and features that each performs.

II. ORDER ENTRY/INVOICING

THE SYSTEMS HOUSE, INC. MASTER DISTRIBUTION PRODUCT DESCRIPTION

ORDER ENTRY MENU

MDS for Windows - Connected to 199.5.163.1 - [ORDER.ENTRY]

File Settings View Reset Tools GUI Help

Account:BASE.12 Port:040 Menu:ORDER.ENTRY Capture:On

Order Entry and Invoicing Selector

1. Inquiry Menu

Input:

- 2. Order Entry
- 3. Consignment Billing
- 4. Specific Order Release
- 5. Verification - Invoicing
- 6. Invoice and Credit Memo Voids
- 7. One-Step Invoicing
- 8. Credit Memo Entry and Maintenance
- 9. Pro-Forma Entry
- 10. Backorder Priority Changes
- 11. Credit Release Maintenance
- 12. Transfer Entry
- 13. Release Preview
- 14. Backorder Allocation and Release
- 15. Bill of Lading Maintenance
- 16. Ship Order Immediately
- 17. Start Automated Shipping System

Maintenance:

- 18. Order Maintenance
- 19. Release Maintenance
- 20. Order Template Maintenance
- 21. Pro-Forma Maintenance
- 22. Pro-Forma Conversion
- 23. Standing Order Menu
- 24. Transfer Maintenance
- 25. Document Prints
- 26. Freight Audit Maintenance
- 27. Warehouse Management

Enter Selection or END:

OE VE MAINT DRILL [] [] CAPT OFF VIEW
HELP END INSERT LDELETE PREV PG NEXT PG INQUIRY ABORT

II. ORDER ENTRY/INVOICING

A. ORDER ENTRY/INVOICING METHODOLOGIES

MDS offers several approaches to the order entry process which can be combined as needed to satisfy the needs of a particular customer.

1. TWO-PASS INVOICING (COMPLETION BILLING)

This technique, which is the most common within the Distribution Industry, is used by companies requiring a separate picking and invoice document. Inventory update can be on a pre-billing or post-billing basis. Orders or order lines due at a future date (typically more than 60 days from order date) can be flagged as future and do not affect inventory availability until the due date is approached. Similarly, drop shipment orders are accepted by this procedure and do not affect product availability.

The initial picking document is generated based on quantity available (pre-billing) or quantity ordered (post-billing). The picking document can be sorted by warehouse bin location, initial entry sequence, or item number sequence. An optional bulk picking summary is available as well.

After the picking process has been completed, the picking discrepancies (pre-billing) or the quantity shipped (post-billing) is entered into the system. This process called “verification” triggers the invoicing process for the units shipped. The remaining quantities remain on the file as backorders for subsequent processing. This process can be integrated with a Shipping Manifest System (such as the Clippership system).

Subsequent releases of backorders can be accomplished in one of the following ways:

- a. **Backorder Allocation Upon Inventory Receipt** - When merchandise is received for a product with outstanding customer backorders, the system automatically triggers the release of those orders which can now be shipped. The allocation of stock in situations where inventory is not sufficient to fulfill all customer backorders, can be customized to meet the needs of the MDS client. It is typically based on an order/customer priority code, oldest open backorder within priority, with manual override capability available.
- b. **Specific Order/Line** - Specific orders or lines can be manually allocated and released through procedures provided for this purpose.

The result of either of the release procedures is the generation of another picking/packing slip identifying the initial order, and customer reference data to facilitate the shipment of the merchandise to the customer.

II. ORDER ENTRY/INVOICING

A. ORDER ENTRY/INVOICING METHODOLOGIES

2. ONE-PASS INVOICING (WITH BACKORDER CONTROL)

This processing method is employed when the customer desires a combination picking/invoicing set to be prepared simultaneously. Inventory update can be on a pre or post-billing basis, with the unshipped quantity being established on file as a backorder.

The invoice can be sorted by warehouse bin location, initial entry sequence, or item number sequence. Accounting information is generated and updated to accounts receivable and sales history. The subsequent releases of backorders can be handled by any of the techniques described above.

3. FUTURE ORDERS

This approach is most typically used by the organization who books orders for delivery at some future time. The due date is entered at the time of order entry time, A decision on whether to accept the order and when it is to be released can be made at a later date. Inventory demand is not affected until the order has been triggered as due.

If the client desires, it is feasible to generate an order confirmation with all lines from the order or just the future lines. Extensive reporting is available to allow the MDS client to properly order inventory to satisfy order demand.

A combination picking/packing slip is generated upon the due date being reached. This document, which can be printed in warehouse location sequence to facilitate picking, contains all the information necessary to fulfill the customer's order.

Subsequent releases of backorders are handled through the "backorder allocations" or "specific order/line" release processes, as described above.

4. ONE-STEP INVOICING (NO BACKORDER CONTROL)

The order/invoice is entered in a single pass including all order information, quantities sold and shipped, etc. An invoice document is created, and the order information deleted from the file.

This procedure is used by those customers requiring a simplified billing procedure as their primary order entry mechanism. However, it can also be used by a customer using one of the other invoicing types to record miscellaneous sales (non-inventory, salesman samples, etc.) or to re-bill invoices that had to be voided due to an error.

II. ORDER ENTRY/INVOICING

B. RETURN AUTHORIZATION SYSTEM - Credit and Void Procedures

The objective of a return authorization procedure is to control the return of merchandise from customers. As a by-product of the system, a return document in the format of a picking slip is printed to identify the merchandise authorized to be returned once the return merchandise is received. After return receipt of the merchandise, the open return authorization is converted into a credit memo.

1. RETURN AUTHORIZATION ENTRY

This procedure is used to enter the items authorized to be returned. The operator identifies the customer, ship to, and other header information. At the line item level, the quantities to be returned and the allowed price are identified. The price paid can be cross-checked to what the customer actually paid for the item. An RA expiration date may be entered on the header screen. As a result of this entry procedure, a record is established in the open RA file and is held for the authorization review step.

2. RETURN AUTHORIZATION REVIEW

The return authorization review step allows management to review all the RA's entered by customer service. This process shows the products to be returned and the prices to be credited. The operator may allow, disallow, or hold for further review. Once accepted the RA print procedure produces a pick up or return document. In addition, the return authorization form can be faxed or E-mailed to the customer.

3. RETURN AUTHORIZATION MAINTENANCE AND RECEIPT

Upon receipt of the returned items, discrepancies in quantities returned can be recorded. Additional items can be input using the return authorization maintenance function. This procedure provides the ability to modify quantities, prices, as well as add additional items returned.

A credit memo is generated for the quantities returned, and the balance left open on the RA. An option is provided in the program to cancel the balance of RA, or to leave it in an open status. All normal updating of files occur at this time, including the update of inventory (based upon the return/do not return flag). A credit memo document will be produced as part of the end of day procedure.

4. CREDIT MEMOS

In addition to the Return Authorization procedure, a "one-step" credit memo procedure is provided to issue credit to customers for returned merchandise for whatever reason. The program provides the option whether or not to update inventory (updating adjustments if it does not update on hand). The credit memo is designed to print on a regular invoice set so as to avoid the necessity of ordering separate credit memo forms.

II. ORDER ENTRY/INVOICING

B. RETURN AUTHORIZATION SYSTEM - Credit and Void Procedures

5. VOID PROCEDURES

Invoice and credit memo void procedures are provided with MDS. The only required input in either void program is the entry of the credit memo or invoice number. As a result, all accounting sales and inventory updates are reversed, with appropriate audit trails to indicate that a void has occurred.

C. OTHER ORDER ENTRY PROCEDURES

Orders of a recurring nature are handled by either MDS pro-forma procedure or the standing order procedure. These procedures will eliminate the manual tracking of recurring orders and quotations.

1. QUOTATIONS/BID ENTRY

The pro-forma invoicing capability allows the preparation of a facsimile invoice that can be sent to a customer as a basis for a price quotation, etc. It is similar in operation to one-step invoicing with the important difference being that the separate pro-forma files are updated by this program. If desired, the pro-forma invoice can be modified and/or converted to an actual order if the quotation is accepted by the customer. There is also an option to convert the pricing specified on the pro-forma into permanent contract prices for this customer.

2. DISTRIBUTION ORDERS

A Distribution Order is a request by a customer to ship a set of product to each of their stores or warehouse locations. The specific items to be shipped may vary between individual ship-to locations. Today, most Distro orders are received via EDI. In addition, the Pro-Forma procedure, because of its conversion capability, can be used to create the separate orders.

3. STANDING ORDERS

Another method to handle orders of a recurring or standing nature is the MDS standing order subsystem. This feature provides the ability to pre-store standard customer orders on the system with up to 100 release dates. The standing order system will allow you to book your order once and automatically release the order on the predefined shipping dates.

II. ORDER ENTRY/INVOICING

D. WAREHOUSE TRANSFER BILLING

1. TRANSFER ENTRY

Transfer entry is used to enter the transfer request. In this order entry like procedure, the shipping and receiving warehouses are identified, and the products and quantities required are input.

Normal availability checking and backorder handling occur as with customer orders. The transfer is issued at cost. As a result of transfer entry, a picking document for the shippable merchandise is created and backorders established for the non-shippable portion.

2. VERIFICATION

After shipment, the picking document is verified to the system. Inventory in the sending warehouse is reduced at time of shipment.

Two options are available with regards to the updating of the inventory at the receiving warehouse. The update may be immediate if a computerized remote receiving procedure is not desired. Alternately, the program updates the "in-transit to" at the receiving location, and creates an in-transit file.

3. REMOTE WAREHOUSE RECEIPTS

This procedure is used only if the second option is selected. The in-transit file updates to reflect receipt of the merchandise, and the on-hand at the receiving location is increased. A transfer-in-process report is provided for reconciliation purposes.

4. BACKORDER PROCESSING

Transfer backorders are handled by the same procedures used to release and ship customer backorders.

E. CONSIGNMENT BILLING

The consignment subsystem is designed to enter consignment (sometimes referred to as memo transaction) shipments, track outstanding consignment merchandise, and provide for their eventual conversion to a sale or return to inventory. In a consignment transaction, ownership of the merchandise remains with seller, even though it may be on the premises of the customer. Therefore, control is needed on both a piece basis as well as a dollar basis.

1. CONSIGNMENT ENTRY

The initial entry of the consignment is done via regular order entry. The order is processed as a normal order, but upon verification an open consignment record is created rather than an invoice and/or accounts receivable transaction. Since it is not truly a sale, sales analysis is not updated at this time..

II. ORDER ENTRY/INVOICING

2. CONSIGNMENT BILLING

This procedure allows the operator to call up the open consignment record, record the quantities sold or returned or left on consignment. An invoice transaction is created for the quantity sold, a return transaction generated for the quantity returned, and the balance is left in an open status.

E. TELEMARKETING SYSTEM

The Telemarketing Subsystem provides the telemarketer with a fully integrated access to the MDS database. A separate prospect file, in the same format as the MDS customer file, is created. Therefore, when the outbound telemarketing effort succeeds in obtaining an order, the prospect can be converted to a customer, on-line, during Order Entry.

1. CALLING THROUGH A LIST

The MDS report writer allows the operator to specify which prospects to contact, and in what sequence. The selected prospects are displayed in the requested sequence, in a summary mode. The operator can then drill down to obtain detailed prospect and call history information, for review and maintenance.

2. ORDER ENTRY

If an order is received from a prospect, a single key stroke links the operator to the order entry module. The prospect is converted to an actual customer, and the telemarketer can then “book” the order using the regular order entry procedure.

3. ON-LINE FAXING

The system provides the ability to formulate a fax list, identify the document(s) to be sent, and to initiate the unattended faxing of the documents.

G. ORDER ENTRY FEATURES - GENERAL

1. MULTIPLE COMPANY

The system provides the ability to separate sales statistics for up to 99 accounting entities.

2. MULTIPLE WAREHOUSE

Provision is made in the system for up to 999 different warehouses, where inventory may be stored. Separate inventory and product sales history information may be stored for each warehouse. The system allows the “selling” and “shipping” branch to be different. Thus, the Los Angeles branch, for example, can enter an order that is to be shipped in its entirety from the Atlanta branch. In addition, the shipping branch can be specified on a line basis (i.e., some items will come out of Los Angeles’ inventory, and the balance from Atlanta).

The system also has the ability to do trans-warehouse shipping logic. If you have the parameter set to use trans-warehouse shipping, the system will automatically display any warehouses with availability for this line item if the original warehouse selected does not have enough on hand. At this point you can select which warehouse(s) to ship the item from.

II. ORDER ENTRY/INVOICING

3. FILE MAINTENANCE AUDIT TRAIL

Any change by maintenance to any file field is recorded and available for audit trail purposes. In addition, each order is tracked through each step in the order cycle. An inquiry will tell you the operator, date, time, port, and processes which have been run for an entered order.

4. SECURITY/PROTECTION

Multiple levels of password protection are provided to insure the integrity of the system. The customer can establish who within his organization can have access to the various routines.

H. ORDER ENTRY FEATURES - CUSTOMER (HEADER)

1. CUSTOMER LOOKUP

MDS offers several flexible methods to identify and retrieve the appropriate customer record. Using advanced indexing technology, customers can be accessed by an alphanumeric acronym as well as by the assigned customer number. Access is also possible by any portion of the customer's name. For example, The Systems House could be found under:

SYSTEMS	(First Significant Name)
HOUSE	(Last Name)
SYS	(Portion of First Name)
07013	(Zip Code)
NJ	(State)
CLIFTON	(City)
973-777-8050	(Telephone number)
1033	(Portion of address)

To narrow the search, you can enter a portion of the name together with the city (or another criteria such as phone number). Thus the entry of Hospital and Louisville, would bring up all "hospitals" in "Louisville".

Lastly, if a portion of the customer code (or acronym) is entered, the system will display all customers with matching criteria (i.e. enter "AC" and all customers starting with AC will be displayed), and allow the operator to scan the file backwards or forwards to locate the proper customer. All indices are built on-line. Therefore if you change a customer name, add a customer from within order entry, or delete a customer from the system, the lookups are always up to date. These lookup features are consistent throughout MDS.

2. SHIP-TO LOOKUP

If the customer has multiple ship-to locations, the system will bring up an inquiry showing the choices available. In addition the ship-to can be identified by number, for example the "store number" assigned to the ship to.

II. ORDER ENTRY/INVOICING

H. ORDER ENTRY FEATURES - CUSTOMER (HEADER)

3. ABILITY TO ADD NEW CUSTOMERS DURING ORDER ENTRY

Entering a customer number not on file at the customer number prompt during order entry allows the addition of a new customer onto the master file.

The maintenance element provides for the entry of customer bill-to and ship-to data as well as credit card information and pricing data.

This routine is designed to accommodate the MDS customer operating in a true interactive order entry environment (order taken over the phone).

4. TERMS INFORMATION, CASH DISCOUNTS

The system provides the facility to pre-store the customary terms provided to each individual customer. Extended payment terms given to a customer can be pre-coded and automatically applied to each operation.

If the terms include a cash discount, the amount is calculated and recorded on the aged accounts receivable report to validate any cash discount taken by the customer.

5. CREDIT CHECKING

MDS offers several approaches to the monitoring of customer credit balances, as well as to the procedures used to handle exceptional situations.

Monitoring capabilities include the ability to check credit:

- a. at the beginning of an order, at end, or both times
- b. based on current accounts receivable balance plus current open orders
- c. based on date of oldest open invoice
- d. establish customers to be shipped on a COD basis only
- e. provide customers with unlimited credit

Procedurally, the system offers two alternate methods to handle credit exceptions:

- a. The operator can be given the option of approving or canceling the order. In either event, the action taken is logged into a system audit file.
- b. The second method is used if credit exceptions are to be reviewed by a separate credit department. Typically, the entry operator is not in a position to decide whether or not to ship the order. The order is accepted in a credit hold status. The credit manager can be notified on-line with a display of the customer's credit history as well as the details of the current order awaiting approval. Picking documents for credit held orders are not produced until approved. The credit release maintenance procedure provides the credit department the ability to approve (and release) the order for shipment, or cancels the order.

II. ORDER ENTRY/INVOICING

H. ORDER ENTRY FEATURES - CUSTOMER (HEADER)

6. CREDIT CARD AND CASH SALES

Credit card and cash sales are handled by the normal system programs (i.e., order entry, invoicing). At the time of order entry, the cash received (or credit card amount charged) is entered. The amount of cash received is reflected in the daily cash receipts report, and its source as a cash sale identified.

The handling of cash sales by the system is rather sophisticated in that it allows cash to be received and applied at time of order - before the invoice debit to A/R is applied. When the order is invoiced, the initial cash is automatically reapplied to the correct invoice. A reconciliation is printed on the picking document (and/or invoice) showing the total invoice amount, balance owing, or balance due customer.

An automatic interface has been built between MDS and Verisign to allow the validation of credit cards on-line. Thus, MDS can:

- A. Determine if the credit request has been approved on line.
- B. Log the credit reservation at the time of entry.
- C. Automatically adjust the credit request as changes to the order occur (i.e. freight charges later added)

7. FUTURE ORDERS

Orders received far in advance of their due date may be entered into the system using the normal order entry procedure. By comparing the order's due date to a pre-stored date, the system determines those orders which are to be considered "future".

Although the order is recorded and therefore will appear on open order reports and inquiries, inventory demand is not affected until the merchandise is actually needed (typically 30 days prior to shipment date). This feature allows the distributor to maintain control over future orders, yet at the same time not commit inventory needlessly. An entire order can be flagged as future, or the future status can be designated as future on a line by line basis. As part of the backorder allocation run, future orders are scanned and converted to regular backorders when appropriate. When inventory is available, the order lines are released.

8. COMMISSIONS

Salesmen commission in the system can be computed based on either gross sales price or gross profit. Commission can be based on the generation of the invoice or the payment of the invoice. Several flexible methods of arriving at the appropriate commission rate are provided.

9. MONTHLY BILLING

MDS provides the ability to bill customers on a monthly basis rather than on an individual shipment basis. The system maintains control over shipped but not filled amounts, and automatically issues the invoices to the customer during the accounts receivable month end job stream.

II. ORDER ENTRY/INVOICING

H. ORDER ENTRY FEATURES - CUSTOMER (HEADER)

10. DROP SHIPMENTS (Automatic Purchase Order Generation)

Orders which are to be drop-shipped directly from the vendor to the customers can be entered through the normal order entry procedure. Drop shipments can be entered on a separate order, or be entered together with regular line items on a single order. The additional steps taken are:

- a. Inventory on hand and quantity committed to customer's orders are not affected.
- b. Unit sales quantities are stored separately so the demand calculations used in the inventory management system are not distorted.
- c. A drop ship purchase order will be generated for purchasing department review. The drop ship purchase order reflects the customer to whom the merchandise is to be shipped, the required date of the order, and the vendor, product and quantities involved.
- d. Any maintenance changes performed on the customer order will automatically applied to the open vendor purchase order.
- e. When the vendor confirms shipment to the customer, the drop ship receipt procedure initiates the invoice to the customer, creates the voucher in accounts payable and closes the purchase order to record the customer's receipt.

11. BILL COMPLETE

This feature allows the MDS user to flag certain orders as not to be billed until all items ordered have been shipped complete. This requirement frequently surfaces when dealing with governmental agencies.

12. SHIP COMPLETE

This feature allows the MDS user to accommodate their customer who has requested that no partial shipments be allowed; i.e., the entire order must be shipped at one time. This system will hold the entire order, and the inventory to fulfill the order, until inventory is available to satisfy all items ordered.

13. CANCEL DATE

MDS can store the order cancellation date if applicable. Exception reports can be prepared as the unshipped order nears the cancellation date.

14. ORDER HOLD

This flag allows the operator to place the order on manual hold – perhaps to review pricing or await a return call from the customer to authorize the purchase, or to add another item to the order. This Hold is in addition to the “automatic” holds of credit and pricing exceptions.

II. ORDER ENTRY/INVOICING

15. PHYSICIAN LICENSE AND DEA NUMBER

The Physician's license and DEA number can be stored on the system. In addition, the drugs the physician is authorized to purchase is stored in the customer file (see DEA compliance below).

I. ORDER ENTRY FEATURES - PRODUCT (LINE-ITEM)

1. ALTERNATE PRODUCT NUMBERS

The system provides the ability to refer to a product by any number of different references. This might be used to record:

- a. The normal inventory product code
- b. The customer's item number
- c. The vendor's item number
- d. National Stock Number
- e. National Drug Code
- f. UPC Code
- g. Bar Code

2. PRODUCT LOOKUP

To support interactive order entry, extensive product lookup capabilities have been built into MDS. By pressing or clicking the "inquiry" key (F7) at the item number prompt, the item lookup screen is displayed which allows access to product by:

- a. any part of the product code
- b. Any portion of the product description
- c. vendor code
- d. product class
- e. Customer's item number

Thus, a specific item can be accessed by:

J-J8758	(Full Product Code)
J	(Part of Product Code)
SYRING	(Part of Description)
SYRING+2CC	(The + operator allows the operator to "and" the search criteria. This input would return all 2CC syringes)
004	(Product Class)
17000	(Vendor)
12345	(Customer's Item number)

II. ORDER ENTRY/INVOICING

I. ORDER ENTRY FEATURES - PRODUCT (LINE-ITEM)

2. PRODUCT LOOKUP (continued)

The ability to combine search criteria with a + is an extremely powerful capability. In addition, multiple search criteria can be entered to narrow the search (i.e. a portion of the product name and product class).

Lastly, if a portion of the product code is entered, the system will display all products with matching criteria (i.e. enter "AC" and all products starting with AC will be displayed). The operator can then scan the file backwards or forwards to locate the proper customer. These lookup features are consistent throughout MDS.

3. CUSTOMER HISTORY

Since oftentimes the customer wishes to purchase the "same item I bought before", the lookup display first displays those items meeting the search criteria that this customer has already purchased. The inquiry includes pricing and inventory availability information, including the date the next receipt is due. After the display of previously purchased items, the inquiry will then display all items meeting the criteria.

4. DEA COMPLIANCE

Each order line is checked to be sure the customer complies with the type of product being ordered. Additionally, reporting is provided for the tracking of all DEA sales.

5. DUPLICATE ORDER CHECKING

After the entry of each product line within order entry, the system will check to determine if the customer already has an open order for this product. If an open order is found, the operator is alerted and told which order number the product is already open on. The program also checks for duplicate entries on the current orders.

6. VARYING UNITS OF MEASURE

The system has the ability to purchase, maintain inventory, sell and price/cost in different units of measure. Therefore, an item may be:

purchased by the gross
sold by the dozen
price/cost by each

Further, the order entry and purchasing modules provide an override ability so that the "standard" unit of measure can be altered for a specific order. Thus, an item normally sold by the dozen can be sold on an each basis to accommodate a customer's requirement.

II. ORDER ENTRY/INVOICING

I. ORDER ENTRY FEATURES - PRODUCT (LINE-ITEM)

7. QUANTITY FACTOR

This capability allows the user to specify a conversion factor between the ordering quantity and the inventory and/or pricing quantity. This might be used to determine:

- a. the square footage in a 4 x 8 sheet;
- b. the weight in a case of paper, or per thousand sheets of paper.

8. FRACTIONAL INVENTORY

For those customers who sell products in cases and fractional units, the system provides the ability to input and maintain case and fractional quantities. Pricing can be on an each or case basis.

9. LOT INVENTORY CONTROL

MDS has been designed to accommodate the needs of client companies whose inventory is maintained on a lot or serial number basis. Summary inventory information is maintained on a product basis, and in addition, is recorded on a lot by lot basis.

This feature can also be used to maintain inventory by bin location with each bin representing a separate lot.

Several options have been incorporated to accommodate the various methods by which lot control is maintained by different companies.

- a. Individual products may be coded as maintained by lot or not, since not all products may require lot inventory detail.
- b. The specification of which lot is to be used may occur at order entry or billing (verification) time. This allows the system to accommodate the differing needs of potential users of the lot control subsystem. The most common occurrence is to have the lot specified at order entry time. Verification can then be used to make corrections to the lot(s) that were shipped on that invoice. The alternative is to enter the lot(s) shipped at verification.
- c. The lot identification may be input (i.e. the lot, length, or serial number), or selected from the display of an inquiry screen. Lots may be specified by serial number, lengths (i.e., 1,000 foot rolls), and/or warehouse location.
- d. In the event a lot is partially used in the fulfillment of a customer order, an adjustment lot can be automatically generated by the computer for the difference.

i.e., If a 25 foot length of product is cut to accommodate a customer's order for 15 feet, a new lot of 10 foot length is automatically created.

II. ORDER ENTRY/INVOICING

I. ORDER ENTRY FEATURES - PRODUCT (LINE-ITEM)

10. LOT INVENTORY CONTROL (Continued)

- e. Costing and gross profit reporting by lot report is available.
- f. A kit can be set up with lot and non-lot components. The lot numbers to be shipped can be assigned at verification or during automatic allocation (depending on the method selected by the MDS client).

11. PICK BY EXPIRATION DATE

Products can be identified as having lots with differing expiration dates. The system can select the oldest product to be picked first. This will reduce the exposure to outdated inventory products. (See warehouse management section).

12. GROUP LOGIC - SIZE AND COLOR SPREAD

Group logic is designed to facilitate the sale of products sold as a group, such as items sold by a color and/or size spread. The applicable items are identified in the "Group Master File". During Order Entry, the screen will automatically display the available size/color combinations. Input consists of quality and/or price override entry.

This technique can also determine the selling price of product where the purchase price is based upon the total quantity purchased from the total group. Thus, if pricing is on a quantity break basis, the total quantity purchased within the group is used to determine eligibility for a quantity price/discount.

13. SUBSTITUTIONS AND TRANS-SHIPMENT LOGIC

Acceptable substitutes for an item can be coded into the product master file. The customer master record also determines whether or not a customer will accept substitute products. In the event inventory is not available on the initially entered item, two options are provided. If "automatic" substitution has been selected for this item, the system will automatically scan the inventories of the substitutes unit it locates one with inventory. If no inventory is found, the line item is backordered under the original product number.

If the product is available in another warehouse, the system can automatically ship the backorder out of the other warehouse. Furthermore, the system has the ability to split the backorder among multiple warehouses, based upon availability, or based upon operator input. Separate shipping documents are prepared for each shipment. Invoicing can be on a per shipment basis or consolidated basis, based upon order parameter settings.

14. KITS

When a group of associated products are sold as one item, a "kit" item may be established identifying which inventory items are included in this kit. In effect, this kit item represents a single-level bill of materials. Sales dollar updating occurs in the kit item, while inventory and sales units occur at the component level.

II. ORDER ENTRY/INVOICING

I. ORDER ENTRY FEATURES - PRODUCT (LINE-ITEM)

15. PRICING/DISCOUNTING

On-line contract rebate pricing and costing is provided. This allows the MDS user accurate gross profits for daily business. In addition there are various techniques for computing the price/discount for the line item provided (see Pricing Section). Some of those available are:

- a. On-line contract rebating
- b. Customer price pointer
- c. Quantity break logic
- d. Customer/customer class - product/product class matrix logic
- e. Special price file

16. PROFITABILITY CHECK AND PRICE HOLD FEATURES

MDS offers several approaches to insuring that products are sold at appropriate profit margins. During order entry, the gross margin is computed on each line item. The margin is compared against pre-stored low-high parameters designated by the MDS client.

There are several variations on the handling of exceptional situations:

- a. The operator is alerted, but override is allowed.
- b. The order is processed, and the picking document prepared in the normal fashion. This insures that the customer's delivery is not delayed. The invoice document is not created. Instead, the invoice is printed on a "price hold" report for management review. Using the release maintenance procedure, prices and costs can be adjusted, and the invoice approved for final billing.

17. NON-STOCK ITEMS

MDS is designed to allow the processing of NON-STOCK items together with stock items on the same order. The NON-STOCK procedure is triggered by the entry of a 'NS' code. The operator may then enter the item's description, unit of measure, vendor, cost, etc., if not previously stored on the product master file.

Optionally, a NON-STOCK order list can be prepared for the Purchasing Department so that the required item can be procured from the vendor. Upon receipt of the item, a picking document is automatically generated via the normal release methods. If the special item is to be drop shipped, it can also be handled by the direct ship module discussed below. Of particular importance, the identity of the NON-STOCK item can be maintained on customer/product historical reporting.

II. ORDER ENTRY/INVOICING

I. ORDER ENTRY FEATURES - PRODUCT (LINE-ITEM)

18. MESSAGE TEXT ENTRY

MDS offers several methods to record special messages on an order or invoice.

a. Multiple Line Text Message

The entry of a “T” at the item number prompt allows the entry of a multiple line message by the operator.

b. Multiple Line Comment Message

Comment lines can be entered after each product and can be flagged to appear on the picking document, the invoice document, or both.

J. ORDER ENTRY FEATURES - (ORDER TOTAL)

1. ORDER MINIMUMS

A minimum order amount can be specified. At the completion of the order, the total order amount (exclusive of backorder) is compared to the minimum amount. If the order fails the minimum check, one of the following four actions can be taken:

- a. all items on the order can be converted to backorders
- b. the order may be approved as is
- c. a surcharge may be added to the order amount, or
- d. the order may be canceled

2. CUSTOMER FREIGHT CHARGES

The base MDS system has the ability to store and calculate the freight charges associated with a customer’s order. The calculation is based on the shipping zone of the customer and the theoretical weight or value of the shipment. The customer file can specify whether or not the customer is to be charged freight, or if freight is not to be charged if the value of the order is more than \$ X.

3. SCHEDULED PICKING

An option to determine when the picking document should print, this feature allows better control for MDS users who deliver to customers on specific days. The MDS system will hold the picking document and continue to commit inventory to all lines until the release date. Two major benefits are the decreased paper work (one picking document per order) as well as freeing up warehouse staging space.

II. ORDER ENTRY/INVOICING

J. ORDER ENTRY FEATURES - (ORDER TOTAL)

4. THIRD PARTY SHIPPING MANIFEST SYSTEM

Most MDS customers utilize a third party freight manifest system which can be fully integrated with MDS. To date we have interfaced with Clippership, FedEx, RPS, and UPS on-line.

These third party Shipping Manifest Systems (such as the Clippership system), provides the MDS user with a much more flexible tool, which will calculate the correct rates, compare rates from differing companies, prepare all required labels, COD tags, bar code labels, manifests etc. In addition Clippership will automatically transmit the shipping information to the carriers, and return to MDS the tracking number by carton, weight, and freight charge. Lastly, Clippership will obtain delivery dates on all open packages, and transmit that information to MDS. The Detailed Release (Invoice) inquiry, displays the tracing numbers, as well as shipping and box information.

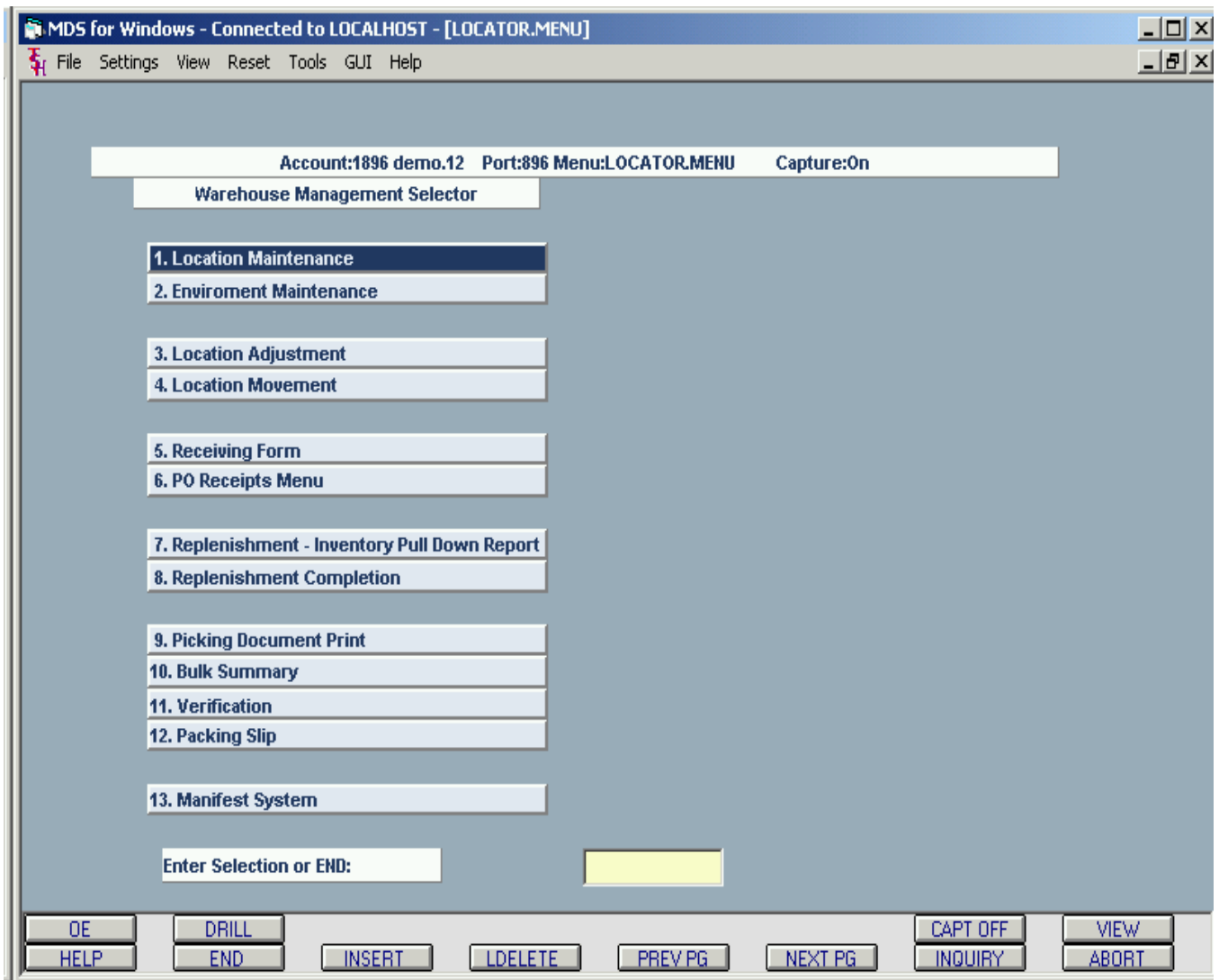
5. WAREHOUSE PRODUCTIVITY STATISTICS

As a by-product of the verification process, the system keeps track of the number of orders and lines, picked and/or checked in the warehouse by individual. This information forms the basis of the warehouse productivity report.

III. WAREHOUSE MANAGEMENT

THE SYSTEMS HOUSE, INC. MASTER DISTRIBUTION SYSTEM PRODUCT DESCRIPTION

WAREHOUSE MANAGEMENT SELECTOR



III. WAREHOUSE MANAGEMENT

A. Overview

The MDS has the ability to support multiple bin locations for a given product (also known as a **random locator system**), without the need to implement a full RF based warehouse management system. The system also allows the user to support product lots, with expiration date management. This document discusses the methodologies that have been used to implement these capabilities. The areas of the system that must be considered are:

2. Warehouse Preparation
3. Database modifications
4. Purchase Order Receiving and Product-Put-Away
5. Order Picking
6. Product Replenishment (Pull-Down)
7. Physical Inventory

B. Warehouse Preparation

Before a Warehouse Management System can be installed, the warehouse must be prepared for random product processing. The first step is to label each unique product location. The primary pick locations ideally should be at floor level (or at most one level off the ground), and all other locations should be utilized for bulk storage (or backup) locations. MDS can support location codes in any format - up to a maximum of 11 digits in length. It is suggested that the code clearly identify the zone, aisle, height etc. of the location.

If a future conversion to RF is being considered, it is recommended that the location labels be bar coded and human readable, also, that they be adhered to a soft magnet strip. This will allow the customer to maintain locations without regenerating the location labels many times. However, labeling in this fashion is significantly more expensive than standard shelf labels.

MDS has the ability to specify differing environmental (or security) considerations for each product and location. A data base file is provided for the purpose of identifying the varying environments. The environment code is stored in the Product Master file to indicate the type of environment that the product requires, as well as in the Location Master file to indicate the type of environment the location provides.

Similarly, product storage information is also stored in the system. The Product files will specify information regarding the size and storage of the item:

- i.e. Case Packing Information
- Cube and Block and Tier Information
- Primary pick location minimum and maximum
- Min and Max quantities for the primary pick location

III. WAREHOUSE MANAGEMENT

C. Database Considerations

1. Warehouse File

Warehouse location logic can be implemented on a warehouse basis. The warehouse file contains the format and match of the Warehouse Location field (a maximum of 11 A/N characters). If the Bulk.Area redirection option is selected, large orders (in case pack size), will be redirected away from the primary pick location to the backup location, with the earliest receipt or expiration date. In this way, a single order does not “wipe out” the primary pick location.

2. Environment File - (Environ.mast)

This file defines the differing environmental conditions of the products and locations. This file will be used to verify the environment code entry in the Location and Product Master file. (I.e. Freezer, refrigerated, security area etc.)

3. Location Master File

The Location Master file contains a single entry for each location in each warehouse. It describes the physical nature of each location, and indicates if a product is currently stored in that location or not. It does not contain quantities, as that is stored in the lot file. If the product code id null, it means the location is empty.

4. Product Master File

The product master file contains descriptive data about the product including all packing, environmental and storage information (weight, block & tier etc.).

5. Product Detail File

The MDS Product detail file is the primary source of inventory and availability information. The lot file, which is subsidiary to the Product Detail file performs the additional (and dual) functions of tracking:

1. Quantity by location to support the random locator system, and
2. Inventory by Lot and serial number.

Each product may have multiple locations which can be primary, backup, or overflow locations. Regardless of how the location is coded in the location file, one location must be specified as the primary pick location for that item. The relevant fields that determine the min/ max parameters for the replenishment of the primary pick location are stored in this file as well.

Therefore, within MDS, it is possible for inventory to be tracked at three levels:

1. Quantity per warehouse, which is stored in the Product detail File,
2. Quantity per warehouse **location** – stored in the lot file, and
3. If lot control is in use, quantity by lot, also stored in the lot file.

III. WAREHOUSE MANAGEMENT

C. Database Considerations - (continued)

6. Lot / Location File

The MDS Product detail file is the primary source of inventory and availability information. The lot file, which is subsidiary to the Product Detail file performs the additional (and dual) functions of tracking:

1. Quantity by location to support the random locator system, and
2. Inventory by Lot and serial number.

D. Procedures

1. Purchase Order Receiving

A. General

When a delivery arrives the purchase order number must be determined, if not available on the delivery manifest. The PO number can be obtained using a MDS inquiry, or from reports provided for that purpose.

B. Purchase Order Worksheet

When the product arrives, the PO number is obtained, and a purchase order worksheet printed to assist in the receiving. This worksheet contains the information necessary to determine where the product should be placed:

1. Product Code(s)
2. Primary pick location - and a flag if in need of replenishment (below minimum quantity)
3. Flag - if backorders exist (for cross-docking).
4. Fill-in spaces to indicate:
 - Quantity Received
 - Expiration Date (if applicable) and
 - The location(s) where the product is being placed, and
 - Lot Numbers if applicable

After the worksheet is printed, the products are counted and the quantities and location are recorded on the form. An inquiry will be available so that warehouse personnel can see in what locations the product is currently stored in, as well as obtain a list of open locations where they might locate the product. This form is used as the turnaround document to store the product.

C. Cross-docking — Processing of Backorders

The receiving report will indicate if there are pending backorders or transfers for the merchandise to be received. The operator would then place the product in the cross-dock area to eliminate the extra effort of putting the product away, and then turning around and picking for the backorders.

III. WAREHOUSE MANAGEMENT

D. Purchase Order Receipt Entry

After the merchandise is put away, the worksheet is used to input data into the MDS system. If the warehouse is using the WMS system, then a Location is required, otherwise it cannot be input. Locations and environmental considerations are validated to the master files.

If the product is coded to record an expiration date it must be entered, and is used to sequence the lot file. Otherwise the earliest receipt date is used to determine the next lot to be used.

2. Location/Lot selection in Order Entry

The rules used to determine lot and location in order entry are as follows:

A. **Location only in use**: During order entry, the pick warehouse location is selected. Generally, the pick will come from the primary pick location -- even if the primary pick location does not have sufficient stock to cover today's orders. The warehouse replenishment system is designed to pull stock from backup locations and replenish the primary pick location. An option is provided on a warehouse basis, to redirect a solid case pick away from the primary pick location to the oldest backup location. The rules are as follows:

1. **Less than case pack quantity** -- The Primary Pick location is used.
2. **Greater than case quantity** - If the ordered quantity is a multiple of the case quantity (purchasing unit of measure), and a bulk location exists, the picker will be directed to the earliest bulk area rather than the primary pick location.
3. **Uneven Quantity** - If the quantity ordered is greater than a case pack, but not a multiple of a solid case (for example 18 ordered when the case pack is 12), the entire order is directed to the primary pick location.

B. Other implications of Location usage

1. **No Location on File** - It is possible that a product is on file without a location. This would be the case with a new or Non-Stock item. Obviously no inventory can be on hand at the time of Order Entry, which would result in a backorder. In this case, the system will generate an order with no location on file.
2. **Backorder Allocation** - The backorder allocation routine and specific order release have parallel location selection logic.
3. **Verification**. In theory nothing can be picked without a warehouse location. However, if at the time of Verification, no location is on the Order/Release record, then the verification program will prompt the operator, and advise that the primary pick location will be used for update. The operator will have the option of overriding the primary pick location.

III. WAREHOUSE MANAGEMENT

C. Lots in use:

If an item is coded as a lot item, then the operator may select the lot to be picked during order entry (i.e. drug lots with expiration dates), or alternately, the lot selected in the warehouse can be input at the time of order verification (selection of a serial coded item).

3. Replenishment

The replenishment process, is initiated by the need to replenish the stock in the primary pick location used during order selection. In a non-RF environment, the only information available is the total quantity needed for the picking run. Therefore the system cannot guaranty a “just-in-time” replenishment, and equally important, the replenishment process must be run before picking is initiated.

Therefore, replenishment can be run at two differing times.

1. In the evening, the primary pick locations can be brought up to the Min levels of sales (1.5X daily sales from primary pick location is suggested).
2. Prior to each picking run, all primary pick locations will be examined to determine which locations are in need of replenishment.

The program will determine which locations require replenishment. The calculation will be based on:

$$\text{On Hand} - \text{In Pick} + \text{Transfers} (= \text{Requirement}) \leq \text{Minimum}$$

If the requirement is less than the minimum, replenishment is recommended. Transfer orders are always issued in a multiple of a solid case. The replenishment quantity will be the greater of:

Pick Location Maximum Quantity less Requirement (rounded down to a solid case)
Or
One case.

The quantity in pick is determined by examining the releases in process. A batch process will select all Releases awaiting printing, or printed but not yet verified. Releases on hold will not be selected (i.e. credit hold, manual hold, or ship complete). Thus the quantity in pick is re-generated each time replenishment occurs.

If the replenishment requirement exceeds the capacity of the of the primary pick location (i.e. Requirement > Maximum), the affected items will be flagged on the replenishment report, so that warehouse management can plan for the situation. The bulk storage location to be used for replenishment will be selected on a FIFO basis, as determined by the expiration or receipt date.

III. WAREHOUSE MANAGEMENT

3. Replenishment - (continued)

As the replenishment calculation proceeds, a file record of the transfer is created. This file will create the replenishment pick report which will show the quantity to move from the selected bulk location to the primary pick location. After replenishment is completed, the report will be used as a turn-around document to record the transfer. Operationally, this program will display all open transfers, and allow the operator to select the transfers that have been completed. If the operator sees an earlier transfer is still open, it is a flag for warehouse personnel to determine what happened to the transfer.

4. The Picking Process - Replenishment is part of the Pick run. The picking job stream contains:

- A. **Picking Document** - The picking document will be organized by pick location, and each order is individually picked using this document. Depending upon the needs of the organization, the pick documents may be created in one of several ways:
 - 1. The pick ticket is printed as soon as the order entry process is completed.
 - 2. Pick tickets are printed in timed batches, which may vary by warehouse (i.e. every 15 minutes in warehouse 001, every 30 minutes in warehouse 002).
 - 3. All Pick tickets ready to print are requested in the warehouse.
- B. **E-Mail and/or Fax Confirmations** - can be sent to Purchasing and/or to the ship to location to expect the shipment.
- C. **Bulk Summary** - If merchandise is picked to a staging area, a bulk summary can be run in either item code or bin location sequence, showing all items and quantities required to fulfill the orders just printed. This merchandise is picked and brought to a central staging area to assemble the individual customer shipments.
- D. **Replenishment Pick Report** - If replenishment is in use, the Replenishment Pick report is printed showing the items to be transferred from a bulk location to the designated primary pick location. The quantity to be moved in terms of the bulk unit of measure will be displayed. Any discrepancies in the transfer will be noted on this report.
- E. **Replenishment Completion** - After replenishment is complete, the replenishment report will be used as a turn-around document to record the transfer. The entry of the transfer number will transfer the inventory in the lot file, and update the inventory audit file. Operationally, this program will display all open transfers, and allow the operator to select the transfers that have been completed. If the operator sees an earlier transfer is still open, it is a flag for warehouse personnel to determine what happened to the transfer.
- F. **Picking** - The merchandise is picked and checked, with any discrepancies noted. The operator in the warehouse will verify the order using the verification program.
- G. **Verification** - After picking is completed, the order is verified to the system. This process initiates the billing process, and in fact the invoice can be produced "on-the-line" if necessary.

III. WAREHOUSE MANAGEMENT

4. The Picking Process

- H. **Packing Slip** - Optionally, a Packing slip (or Invoice) can print after verification is completed.
- I. **Manifest System** - MDS can prepare a truck manifest if required. The operator enters the truck route code, and the system displays all verified releases for that truck route. The operator can defer the shipment of any single order. In a similar fashion, the operator can rearrange the truck route from the predesignated stop numbers stored in the customer ship to file. The ship date in the release file will be updated when manifest is accepted.

The manifest is printed on multi-part paper in the warehouse. The manifest lists the orders for each truck route for that date, displaying the customer numbers, ship.to, and purchase order numbers. The second part is used for the receiver to sign off on (time, location, number of skids, number of cartons, and number of pkg's).

- J. **Interface to Third Party Shipping Systems** - TSH has implemented automated interfaces to several third party shipping systems including those from UPS, FedEx, RPS and Clippership. The interface is bi-directional:
 - 1. The third party system is provided with all necessary shipping information from MDS; including ship to name and address, number of packages, desired shipping method, zone information etc.
 - 2. The third party system weighs the package returns to MDS the package ID, the weight and shipping cost, as well as positive verification that the shipment is on the way.
 - 3. This information is updated to MDS, who also makes the decision whether or not to add the freight charge to the invoice (based on customer file flags, freight minimums etc.).
 - 4. Some third party products can retrieve on a daily basis package delivery information (date and time delivered, and who signed for the package). Alternately, TSH can provide access to this information via the Internet.,

5. Physical Inventory Procedures

The physical inventory procedure has the ability to drive tag generation off of the location file, and can generate tags for all locations including those showing no product stored in that location.

6. Product Location Maintenance and Adjustment Program

Procedures are provided to:

- A. Record location changes, and
- B. Adjust product quantities on hand in the Lot / Location file. The adjustment is also made to the total quantity on-hand in the Product detail file. A reason code is a required input in this program..

IV. INQUIRIES

THE SYSTEMS HOUSE, INC. MASTER DISTRIBUTION SYSTEM PRODUCT DESCRIPTION

INQUIRY MENU

The screenshot shows a software window titled "MDS for Windows - Connected to LOCALHOST - [INQUIRIES011]". The window has a menu bar with "File", "Settings", "View", "Reset", "Tools", "GUI", and "Help". Below the menu bar, a status bar displays "Account:1896 demo.12 Port:896 Menu:INQUIRIES011 Capture:On". The main area is titled "Master Distributor System - Inquiries" and is divided into four sections:

- Order Inquiries :**
 - 1. Customer Order Summary (highlighted)
 - 2. Detailed Order Inquiry
 - 3. Customer Open Order/Detail
 - 4. Item Open Order/Detail
 - 5. Detail Release Inquiry
- Product / Inventory Inquiries:**
 - 13. Stock Status Inquiry
 - 14. Inventory Inquiry
 - 15. Inventory Transaction - by Customer
 - 16. Inventory Transaction - by Product
 - 17. Lot Inventory Inquiry
 - 18. Customer/Product Price Lookup
- A/R and A/P Inquiries:**
 - 6. Summary A/R
 - 7. Open A/R
 - 8. A/R Check Detail
 - 9. A/P Vendor Detailed Payables
 - 10. A/P Check Detail
 - 11. A/P Detailed Voucher
 - 12. G/L Journal Entry
- PO Inquiries:**
 - 19. Detail Open PO
 - 20. Open PO by Item
 - 21. Vendor Open PO
 - 22. Purchase Orders Due-In By Date
 - 23. Detail In Transit Inquiry (Specific)
 - 24. Detail In Transit Inquiry (ALL PO's)
 - 25. In Transit By Item Inquiry
 - 26. Miscellaneous Inquiries

At the bottom of the main area, there is a text input field labeled "Enter Selection or END:" and a yellow rectangular button.

The bottom of the window features a control panel with the following buttons:

- OE
- DRILL
- HELP
- END
- INSERT
- LDELETE
- PREV PG
- NEXT PG
- CAPT OFF
- INQUIRY
- VIEW
- ABORT

IV. INQUIRIES

The inquiry package provides current status information on virtually every aspect of the system, concentrating on the portions of the system data base most important for decision making. All inquiries are available on a standalone basis from the main system selector and are also available during order entry, purchasing, etc.

The inquiries are displayed in one of two fashions:

1. Formatted inquiries from the data base – these inquiries are available during any of the Order Entry or Purchasing procedures by selecting shift-F1 to obtain the inquiry menu, and
2. History presented on a transactional basis (based on input selection criteria) with Drill down capability to specific formatted inquiry where appropriate. Fields available for drill down inquiry are highlighted during the transactional display.

A. DRILL DOWN INQUIRIES

In each case, after the selecting the historical database, the operator can select a date range, a specific or range of customers or products, as well as other search criteria appropriate to the specific inquiry. The data bases available for inquiry are:

1. Invoice History - with drill down inquiry to Invoice, and Accounts Receivable data.
2. Orders - with drill down inquiry to Order, Invoice, and Accounts Receivable data.
3. Customer Detail History - product purchase history with drill down to Stock Status Inquiry.
4. Product Detail History - customers who have purchased this product.
5. A/R Checks - with drill down inquiry to check detail and Accounts Receivable data
6. Purchase Orders - with drill down inquiry to Purchase Order Detail and Vendor Payables history data.
7. Vendor Payables - with drill down inquiry to Voucher, Check and Vendor Payables history data.
8. A/P Payment (Check) History - with drill down inquiry to Check, Voucher and Vendor Payables history data.
9. G/L History - with drill down inquiry to Voucher and Journal Entry Detail data.

B. OPEN ORDER INQUIRIES

MDS allows the user to specify how long the detail on completed orders shipments and paid invoices should be retained on the system. After order completion, the order information is transferred to a history file so that it does not interface with (or lengthen) daily processing. However, the information is available on the open order inquiries detailed below. Similarly, after payments, invoices are moved to a history file where they remain available for inquiry purposes.

1. CUSTOMER ORDER SUMMARY

A summary listing of all customer is displayed – both pending as well as completed -- showing the status of order, customer's purchase order number, date ordered, due date, and value of order. The Detailed Order Inquiry (2) or Detailed Release Inquiry (5) can be called from this inquiry. The inquiry displays in reverse chronological sequence, with closed orders showing after the display of the open orders.

IV. INQUIRIES

THE SYSTEMS HOUSE, INC.

MASTER DISTRIBUTION SYSTEM PRODUCT DESCRIPTION

SAMPLE DRILL DOWN INQUIRY

MDS for Windows - Connected to LOCALHOST - [MDS.INVOICE.DRILL011\$1]

File Settings View Reset Tools GUI Help

MDS Invoice Lookup

Date Range : 01/01/01 To: 07/01/01 Found: 232

Customer Range: To:

Search Pattern:

	Invoice#	Date	TNX	Inv Amount	Open Amt	Customer	Name
41.	06487598	03/12/01	INV	26.50	26.50	645110	MACY'S EAST/A
42.	06487600	03/12/01	INV	53.00	53.00	645110	MACY'S EAST/A
43.	06487602	03/12/01	INV	100.00	100.00	645110	MACY'S EAST/A
44.	06487606	03/12/01	INV	100.00	100.00	645110	MACY'S EAST/A
45.	06487607	03/12/01	INV	26.50	26.50	645110	MACY'S EAST/A
46.	06487609	03/12/01	INV	26.50	26.50	645110	MACY'S EAST/A
47.	09085549	03/02/01	INV	451.00	451.00	944641	MACY'S WEST/BRO
48.	09085550	03/02/01	INV	578.60	578.60	944641	MACY'S WEST/BRO
49.	09085551	03/02/01	INV	541.20	541.20	944641	MACY'S WEST/BRO
50.	09085552	03/02/01	INV	559.90	559.90	944641	MACY'S WEST/BRO
51.	09085553	03/02/01	INV	421.30	421.30	944641	MACY'S WEST/BRO
52.	09085554	03/02/01	INV	405.90	405.90	944641	MACY'S WEST/BRO
53.	09085555	03/02/01	INV	383.90	383.90	944641	MACY'S WEST/BRO
54.	09085556	03/02/01	INV	368.50	368.50	944641	MACY'S WEST/BRO

Enter Line# for Detail or EDIT to Change Search Criteria : XXXXXX

Det Rel Cust A/R Det A/R HELP END INSERT LDELETE PREV PG NEXT PG INQUIRY ABORT

IV. INQUIRIES

2. DETAILED ORDER INQUIRY

The current order status for any given order is displayed (even closed orders). Each line items is displayed, showing quantities ordered, shipped, backordered, and in picking, price, value and due date. This inquiry may be accessed by customer purchase order number in addition to system order number, and selection from customer order summary inquiry.

3. CUSTOMER OPEN ORDER DETAIL

This inquiry shows all open backorders for a customer. In addition, based upon a parameter setting this inquiry will also show all orders currently in process (in pick - not shipped).

4. ITEM OPEN ORDER DETAIL

This inquiry displays all backorders and future orders by product, identifying the customer, order date, due date, and quantities associated with the order. In addition, based upon a parameter setting this inquiry will also show all orders currently in process (in pick - not shipped).

5. DETAILED RELEASE (INVOICE) INQUIRY

This inquiry provides detailed information on the current status of a particular shipment (release). Access to this inquiry may be by release number or invoice number, if the release has already been invoiced to the customer. Of note, this inquiry provides drill down access to package level detail providing tracking and tracing information.

C. ACCOUNTS RECEIVABLE

6. SUMMARY ACCOUNTS RECEIVABLE

The following is displayed for a specific customer: current accounts receivable balance (aged), summary sales information, last order, invoice dates, etc. The detailed open accounts receivable inquiry may be accessed from the summary.

7. OPEN ACCOUNTS RECEIVABLE

This inquiry supplies the details of the customer's current accounts receivable balance, sales and open order data, and lists all currently open accounts receivable items. The program also provides the option to see closed and paid A/R detail as well.

In addition, the inquiry shows the customer's credit limit, total accounts receivable balance, open order balance and sales month to date and year to date.

This inquiry provides the ability to "drill down" to the detailed invoice inquiry, and to access the customers aging summary. Access to the customer message board and sales history is also provided. Copies of individual or a group of faxes can be sent to the customer (requires Fax Server software).

IV. INQUIRIES

8. A/R CHECK DETAIL

This inquiry provides the detail of all customer payments, first at the check detail, with drill down inquiry to see the details of the specific payments.

D. ACCOUNTS PAYABLE

9. A/P VENDOR DETAILED PAYABLES

This inquiry supplies the details of the vendor's current accounts payable balance, and lists all currently open accounts receivable items. The program also provides the option to see closed and paid A/P detail as well. Drill down access to vendor summary purchase and payment history is provided.

10. A/P CHECK DETAIL

This inquiry provides the detail of a specific vendor payment, providing the invoice level detail.

11. A/P DETAILED VOUCHER INQUIRY

This inquiry provides the General Ledger distribution detail of a specific voucher.

12. G/L JOURNAL ENTRY INQUIRY

This inquiry provides the General Ledger distribution detail of a specific journal entry.

E. INVENTORY AND PRODUCT INQUIRIES

13. STOCK STATUS INQUIRY

The inventory status of a specific item is displayed along with sales information is detailed on a warehouse basis. Drill down to the individual locations is provided if inventory is maintained on a location basis. The program allows the user to scroll through the data base forwards and backwards. The inquiry also provides the ability to inquire on:

- A. Summary product sales history (units and dollars)
- B. Detailed sales history (by transaction)
- C. Stored vendor quotations
- D. Detailed product receipt history
- E. In transit information

IV. INQUIRIES

14. INVENTORY INQUIRY

This inquiry provides current inventory status for a particular warehouse (or all combined). In addition, the following are displayed:

- a. inventory status of all substitute items
- b. all backorders (or open orders) for that item
- c. all open purchase orders

15. INVENTORY TRANSACTION INQUIRY - BY CUSTOMER

This inquiry provides a detailed display of all products purchased by a specific customer in reverse chronological order.

16. INVENTORY TRANSACTION INQUIRY - BY PRODUCT

This inquiry provides a detailed display of all customers purchasing a specific product. The display is in reverse chronological order.

17. LOT INVENTORY CONTROL INQUIRY

This inquiry provides sales personnel access to the current inventory levels on items maintained by lot, to allow them to determine which specific lots are best suited to fulfill a customer's order. The inquiry displays all available lots for a given item, for a single warehouse, or all. The sales person may specify a minimum quantity or length required, to restrict the inquiry to only those lots capable of fulfilling the customer's order.

18. CUSTOMER/PRODUCT PRICE LOOKUP

This inquiry provides price for a specific customer for a specific product. This program displays retail price, standard cost, special price, contract price, contract cost, selling, stocking and purchasing unit of measure, warehouse, on hand, availability, quantity committed, on order and quantity in pick.

F. PURCHASE ORDER

19. VENDOR OPEN PURCHASE ORDER

A summary display of all outstanding purchase orders to a vendor showing purchase order number, order date, purchase order amount, amount open, and number of lines open is provided. Drill down to a specific purchase order is provided.

20. DETAILED OPEN PURCHASE ORDER

This inquiry provides current order status for a given purchase order. All line items are displayed showing quantity ordered, open, and received; or cost and due date. Drill down to the detail In-transit inquiry is provided. Lastly, a copy of the Purchase Order may be faxed to the vendor from this inquiry.

IV. INQUIRIES

21. OPEN PURCHASE ORDER BY ITEM

This inquiry displays all open purchase orders by product showing the purchase order, vendor, order date, due date, quantity ordered, received, and open and the cost of the purchase. If the merchandise is assigned to a customer, the customer number is displayed as well. Drill down to the detailed In-transit by item is provided.

22. PURCHASE ORDERS DUE-IN BY DATE

This inquiry displays all open purchase orders due-in on a specific due date. If a direct ship invoice, the inquiry displays the customer to whom the product is being sent.

23. DETAIL IN TRANSIT INQUIRY (SPECIFIC)

This inquiry displays information on a specific in-transit for a specific purchase order. The information displayed includes the vendor, PO#, Intransit#, Vendor Invoice number, Vessel information, B/L#, Container information and size, the On Board Date and Expected Arrival Date. The individual products on the shipment, their quantities and due dates are displayed.

24. DETAIL IN TRANSIT INQUIRY (ALL PO'S)

This inquiry differs from the previous inquiry in that it lists all items for a specific in transit number (shipment), whereas the previous inquiry is for a specific purchase order and shipment. The same information is displayed.

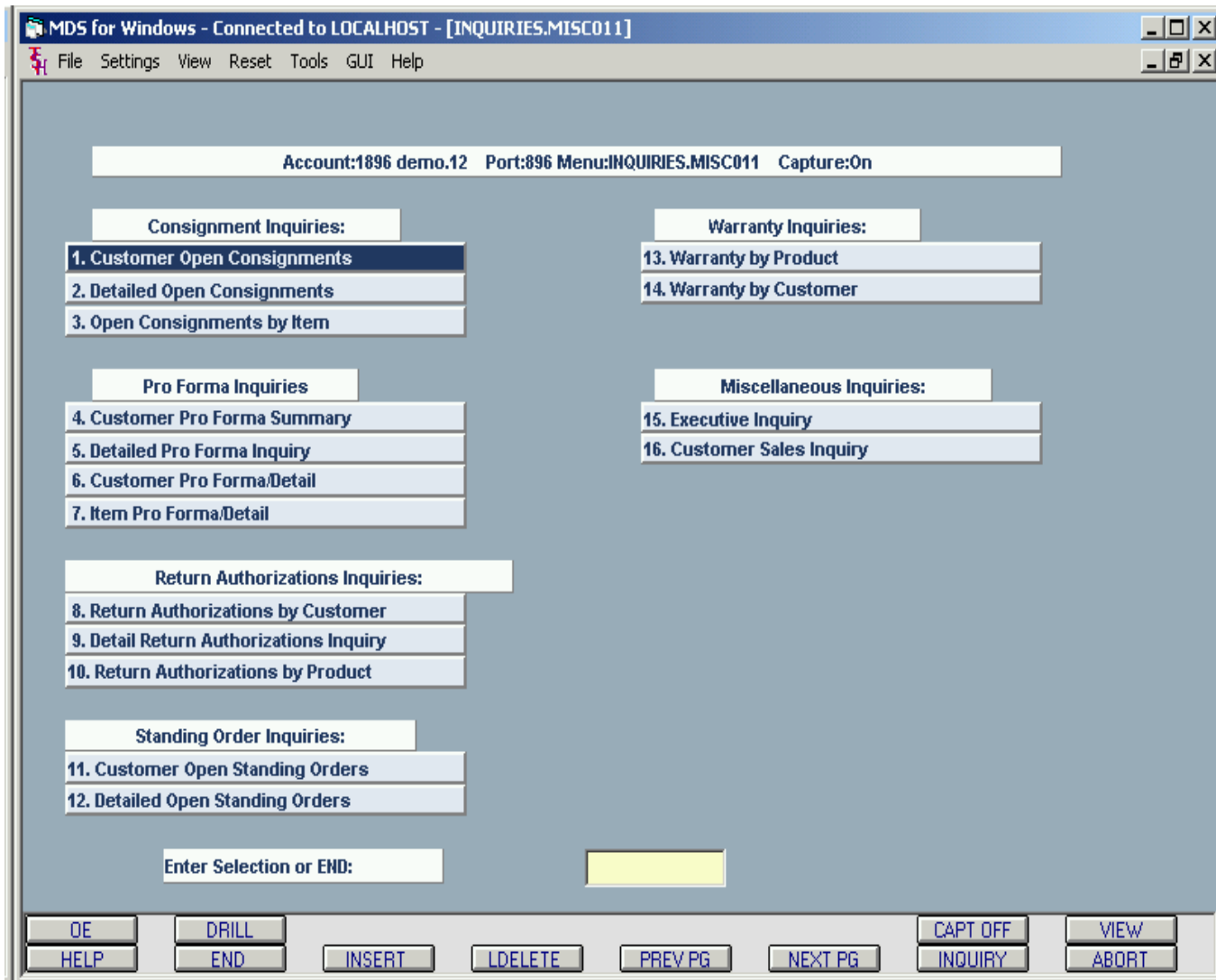
25. IN TRANSIT BY ITEM INQUIRY

This inquiry displays all pending shipments for a specific item. Included in the inquiry are the Purchase order number and line, in-transit number, B/L#, on board and due dates, the intransit quantity, and warehouse ro which the shipment is being directed.

IV. INQUIRIES

THE SYSTEMS HOUSE, INC. MASTER DISTRIBUTION SYSTEM PRODUCT DESCRIPTION

MISCELLANEOUS INQUIRY MENU



IV. INQUIRIES

G. CONSIGNMENT INQUIRIES

1. CUSTOMER OPEN CONSIGNMENTS

This inquiry provides a summary listing of all customer consignments showing status of consignment, customer's purchase order number, date ordered, due date, and value of consignment.

2. DETAILED OPEN CONSIGNMENT

This inquiry provides current status for a given consignment. All line items are displayed with quantity ordered, shipped, backordered, in picking, price, value, and due date.

3. OPEN CONSIGNMENTS BY ITEM

This inquiry displays all backorders and future orders by product, identifying the customer, order date, due date, and quantities associated with the consignment line.

H. PRO-FORMA INQUIRIES

4. CUSTOMER PRO-FORMA SUMMARY

This inquiry will display all quotes for a given customer. Upon entry of the customer number, a list of all pro-formas on the system for this customer will show as well as the dates and the dollar amount for each quote.

5. DETAILED PRO-FORMA INQUIRY

This inquiry will display the details of a particular pro-forma such as quantity ordered, quantity in pick and on backorder as well as the total value of this quote.

6. CUSTOMER PRO-FORMA/DETAIL

This inquiry will display all pro-formas for a certain customer. Unlike the customer pro-forma inquiry, this inquiry will display the details of each of the quotes listed.

7. ITEM PRO-FORMA/DETAIL

This inquiry will display all pro-formas entered on the system for a particular product. Inventory related details concerning the product, such as price, costing and selling unit of measures is displayed as well as customer numbers of those who have quotes with the item selected.

IV. INQUIRIES

I. RETURN AUTHORIZATION INQUIRIES

8. RETURN AUTHORIZATIONS BY CUSTOMER

This inquiry provides a summary listing of all open consignments for a customer, showing status of consignment, customer's purchase order number, date ordered, due date, and value of consignment. Access to the detailed consignment inquiry is provided.

9. DETAIL RETURN AUTHORIZATIONS INQUIRY

This inquiry provides current status for a given consignment. All line items are displayed with quantity ordered, shipped, backordered, in picking, price, value, and due date.

10. RETURN AUTHORIZATIONS BY PRODUCT

This inquiry displays all open return authorizations for a product, identifying the customer, order date, due date, and quantities associated with the RA line.

J. STANDING ORDERS

11. CUSTOMER OPEN STANDING ORDERS

A summary listing of all customer outstanding orders is displayed, showing the status of order, customer's purchase order number, date ordered, due date, and value of order.

12. DETAILED OPEN STANDING ORDER

This inquiry provides current status for a given standing order.

K. WARRANTY

13. WARRANTY BY PRODUCT

This inquiry displays all items on warranty by product and serial number. Contents of the inquiry include the customer, invoice date, date into warranty, warranty expiration date, and end-user if applicable.

14. WARRANTY BY CUSTOMER

This inquiry allows access by customer and displays similar information.

L. MISCELLANEOUS INQUIRIES

15. EXECUTIVE INQUIRY

This inquiry will display month-to-date and year-to-date sales, open accounts receivable balance, daily and monthly cash and open accounts payable balance. Extensive drill down inquiry capability is provided from this inquiry.

16. CUSTOMER SALES INQUIRY

This inquiry displays customer sales and gross profit history information for the past two years.