AIMS/ERP™

Customer Interface Module

Data Dictionaries & Descriptions

> **AIMS/ERP - Specifications & Guide to Use**
> **Customers & Sales Data Dictionaries**

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NOTICE

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Customer Interface Module Overview

This module includes all functions that involve interface with the customer, which is defined in here to include anyone the company has contact with from the marketing or service point of view. Thus, not only established customers, but prospects and others are included.

The order processing cycle follows the same basic standardized sequence, with wide variations controlled via customer order types. This allows some basic business policies to be reflected in the system's functioning, which may be summarized as follows:

- All demand for anything to be shipped is entered as a customer order, including any type of return authorization, or services.
- Everything that is shipped uses the standard customer order entry, pick, ship confirmation, and invoice cycle, although the invoice value may be zero, and may or may not actually be printed.
- All sales recognition is via the customer order/shipment cycle, including repair services for units. Sales and cost of sales data is generated from this data and passed to the financial reporting system.
- Shipments are from inventory.

Other functions besides customer order processing provided as an integral part of the Customer Service module include:

Repair Orders - receipt, repair, fault analysis data, and physical tracking of repaired units, and ultimately shipment back to the owner. Billing and shipment of repaired units is via a linked customer order record.

Mailing & Contact List Management - via the PROCUS table and its related Profile records, extensive and very flexible name and address data base coupled with a variety of coding methods to stratify the data base for target mailings.

Customer Contract History Log - all customer contacts can be logged into the system for followup and problem resolution tracking.

Audit Trails - whenever a customer order is updated, the date and user-ID of the person making the change is logged. All inventory movements create inventory transaction history records. In all other steps, there is an inter-linked sequence of record updates, each associated with date, time and User-ID, so all activity that should be is in an "open" state until driven to completion. For example, the picking program will continuously attempt to pick a customer order with a backorder, unless a conscious product allocation process is used to override this basic process that is designed to insure that no order is

overlooked. Similarly, items removed from inventory for shipment, remain in an issued, unshipped status until either returned, transferred, or shipped.

Customer Order Processing Functional Summary

The Customer Order processing logic creates and updates the Customer Order and other tables via a series of relatively standardized processes. These processes implement the general management policies described above. Via various type codes and control parameters, the same general flow of events handle a wide variety of ordering, picking, shipping, and billing situations. The major sequences, flows and processes are summarized below:

1. Order Entry - this process occurs for typical sales situations, ordering of shipment of returned/repaired units, request for shipment of items at no cost, temporary loan of units, and any other request for shipment of product or parts. Included is a configure/assemble to order capability that is triggered by appropriate flags and other data in part master records selected for ordering.

2. Allocation - the allocation process is an optional process that allows customer service personnel to indicate which customer order demands will be satisfied with limited quantites of available inventory, and how much. When the allocation quantity is present, the Customer Order Pick List printing program will use this quantity as the quantity to be picked and therefore shipped in place of other methods. If the allocation process has not been applied to a given customer order, the CO Pick List program will use its normal date driven logic of attempting to satisfy the oldest demand first.

3. Pick List Generation - this key process reads the customer order and develops an incremental quantity to be picked, issued and shipped as a group. This proces may use one of several different methods to determine which items and quantities to place on the pick list. This allows the management of the following typical order conditions to be integrated into a single set of standard processes:

- Single line item, low cost item, requested for immediate shipment.
- Multiple line items, pick from stock item, immediate shipment.
- Single/multiple line items with more than one delivery date, including future dated orders where shipment commitments are made using an Available to Promise method.
- Single/multiple items that are on backorder, i.e., not shipped by the requested date.
- Allocation of one or more line items on a customer order due to limited supply, regardless of requested shipment dates.
- Longer-term commitments with multiple items and numerous delivery dates, which may be repeatedly revised. This logic is to support situations where the customer has contracted for a given number of units but want to vary the shipping schedule according to short-term needs. Sometimes called a blanket order because it covers

an extended period of time. Quantities with uncommitted shipment dates are assigned to dates in the future, perhaps even beyond the normal production planning horizon. This insures that no demand quantity is overlooked.

The Customer Order Pick List program creates, under certain circumstances, "sub-orders" that are a portion of a total order. This sub-order will result from either allocated quantities being less than what is demanded by a given line item and its requested shipment schedule, or by the requested shipment dates not being within the CO Picking Window. The CO Picking Window is a global parameter (number of M-days) that, when added to the current system date, will generate the CO Pick Window Date. This date is then used by the picking program to select CO line item requested shipment dates and associated quantities for inclusion on the pick list.

The pick list logic will not select delivery increments with requested shipment dates that are farther in the future than the CO Pick Window date. In the absence of allocation quantities, the selection logic is:

- Calculate the CO Pick Window Date.
- Retrieve each CO L/I & associated Delivery Schedule.
- Apply current L/I Quantity Shipped to the current Shipment Schedule and each date's associated quantities to identify Shipment increments and quantities that are not fulfilled. This is explained further below.
- Beginning with the first Shipment Schedule increment with a positive value, continue accumulating Scheduled Shipment quantities until a Scheduled Shipment Date is encountered that is greater than the CO Pick Window Date.
- Output/print this quantity on the Pick List for this L/I for this CO.
- Continue the process until all non-closed Customer Orders are processed.

NOTE: The relationship between CO L/I Quantity Shipped and the requested or Scheduled Shipment dates & quantities is handled by posting all quantities shipped to the line item level (shipment confirmation transactions), then applying these quantities to the oldest shipment date first. All determination of quantities due to be shipped anywhere in the system is made by calculating the quantity remaining due for any requested shipment increment by simply subtracting the quantity shipped for the line item from each successive shipment date's quantity until a shipment increment is reached where the Shipment Quantity minus the remaining unapplied quantity received is greater than zero. This allows the Shipment schedule to be modified after some quantities are Shipped. Since the Shipment schedule status is a calculated table, not hard data fields, the quantities already received are simply re-applied to the new shipment schedule.

The following example illustrates this process:

Line Item Quantity Ordered = 100 units
Line Item Quantity Shipped to Date = 45 Units

Shipment Schedule Status:

Shipment Date	Quantity Requested	Quantity Applied	Quantity Remaining
1/15/99	25	25	0
2/15/99	25	20	5
3/15/99	25	0	25
4/15/99	25	0	25

This process gives the customer order a "balance forward" logic, enabling both long-term schipping schedules and revisions to them, as well as simple back orders to be processed via a single, standard process. This is especially useful in a backorder or situation of limited availablity where the ability to predict what will actually get picked, issued and shipped may or may not match what the order data said, or what appeared on the pick list.

If an allocation quantity is present, this quantity is output to the Pick List without performing the above process.

4. Pick/Issue to CO - this process is a transaction which subtracts the picked/issued quantity from perpetual inventory, adding it to the L/I Quantity Issued, and generating an inventory transaction history record. It also creates or updates a previous quantity in the TOBEPICKED table for this customer order and line item. If multiple picks are performed against the same customer order and line item, i.e., with individually wanted serial numbered units, then these are posted cumulativly to the same STAGED record. This record shows the quantity still in a staging area expecting to be shipped soon for a given customer order. A STAGED to STAGED transfer transaction is available to re-allocated already picked items to a different customer order. This transaction also updates the related CO records.

5. Shipment Confirmation & Reporting - this process integrates several functions together, including posting of the quantity shipped to the SHIPMENTS record, setting it up to drive the invoicing process and reporting the movement of the units out of the shipping area to a carrier, linking of the shipment to a carrier's bill of lading or manifest, and posting of the shipment completion to the CO record's L/I Quantity Shipped for the CO. For Foreign shipments, additional staging and containerization support would be included, and/or for truckload, or less than truck load quantity traffic management.

6. <u>Billing/Invoice Generation</u> - this process would be driven by several parts of a single process. The Billing program would read the SHIPMENTS records to identify items that had been shipped, but not billed. It would also check the PROCUS record to determine the billing rules for that customer, which would include various types of periodic billing, and/or the ORDERS record for order types with additional delayed billing logic. Depending on the result of this process, and invoice record would be generated, or the items left in an unbilled status until the correct combination of conditions was encountered to generate the invoice.

Each Invoice record would be added to the Customer Account Balance Transaction table (A/R data), where it can be selected for printing by the Invoice Print program.

Primary Tables & Related Functions - Overview

Customers (PROCUS) - contain all contacts with the company. Provides basis for identifying each customer and storing key information about them. Always accessed as the start of each customer related process that leads to various other processes such as either return authorization, or entry of a new customer order for sale of finished products. Key functions include:

- Name and address data
- Pricing logic controls, such as discount amounts, price list used, etc.
    - Credit limits, relatef
    - End Users
    - Distributors
    - Reps
    - Prospects
    - Service Centers

Customer Order Header (ORDERS) - contains header information for all types of sales/customer orders, and provides the data base for their related functions, including:

- Pointers to address data carried in, updated in, and retrieved from PROCUS record for this customer and order.
- Relational Index links to ORDERDTL record carrying delivery and line item demand data.
- Order status and audit trail data.
- Pricing and billing directions and parameters, including foreign currency codes.
- Linkages to Invoice and other activity records for this ORDER no. in the CAB table.
- Multiple types of Customer Orders include the following examples;

    - Sales of FG items
    - Sales of Merchandise items
    - Shipment & billing for Repaired Unit (repaired on a Repair Order)
    - Shipment for Repaired Unit under Warranty) (repaired on a Repair Order)
    - Unit Loan to be returned
    - Unit Loan to be billed later
    - Return Authorization for Repair
    - Return Authorization for Return to Stock
    - No Charge shipment of items such as literature, small parts
    - Credit Memo to customer, generated from any source other than an accounting or credit adjustment
    - COD Shipments
    - Sales/shipments made in connection with a floored inventory

- Foreign Sales, including foreign currency support

Customer Order Detail (ORDERDTL) - contains delivery and line item demand data belonging to ORDERS records. includes:

- Customer demand for all products - line item order quantities, dates, shipping instructions & addresses.
- Billing directions are all contained in the ORDERS record.
- Sales dollar amount, including built in conversion to Foreign Currencies for appropriate order types.
- Inventory picked to stage items for shipment are posted to the ORDERS record.
- Non-inventory line items in the ORDERDTL records are supported via a Line Item Type code, which allows entry and billing of intangibles such as services.
- Pricing decisions for product are made via several processes, including manual override, but always with the final amount reflected in the ORDERDTL record data.
- All shipments are confirmed and posted to the ORDERDTL records, whether there is a dollar sale value or not.
- Cost of Sales for all products sold till tie back to ORDERS & ORDERDTL data.
- Repair Order sale data are carried in ORDERDTL record data, including Parts charged and Services charged. Data concerning the repair itself, including hours worked, repairs performed, and parts used in the repair (charged for or not) are carried in the Repair Order record itself.

Customer Order Open Pick (TBPICKED) - This table is added to by the pick generation program, and updated and/or deleted by the Pick/Issue to a Customer Order program. Its purpose is to, at any one point in time, contain all order line items and quantities that are to be picked, issued and shipped. Key features include:

- Can be sorted, organized in multiple ways to support efficient picking of items from inventory and movement to staging area.
- Serves to identify a subset of customer order demand as those items and quantities that are to be shipped in the very near term.
- Dynamically updated on a continuous basis, added to each time the Pick Generation program is run, being updated as each item is issued to a sales order.

Customer Order Staged Shipments (STAGED) - This table is added to by items picked & issued to sales orders for shipment. Its functions include:

- Serves as a dynamic, real-time status and association table to rapidly build relationships between unit, serial numbers, quantities, cartons etc. using bar-coded entered data as the shipment preparation process flows.
- The table is added to as each item is Picked & Issued from inventory to a customer order

- Additional associations between product unit ID (serial) number, carton ID, pallet ID's and total shipment (collection of pallets) are made in this table until complete Shipper is identified as shipped.
- One record for each line item picked on a sales order that remains in a staged, not shipped status until shipment confirmation, when all records associated with that shipper number are copied to the Shipment History table and deleted from this table.
- Contains data for each item & SN that has been issued to a Customer Order and is awaiting shipment.
- Appears on open staged item reports until confirmed as shipped.

Shipment History (SHIPMENTS) - This table is added to by the shipment confirmation program and contains all data associated with that shipper number, organized in a quick retrieval format. It is used to drive the Invoicing process.

- Shipped quantities are also posted to the ORDERDTL record for the item.
- After Invoicing the record contains the Invoice number that it was billed on.

Customer Account Balance (CUSBAL) - This table includes all payments, invoices generated from ORDERS record data, adjustments to customer accounts, essentially an Accounts Receivable Transaction table. It includes the following general functions:

- Invoices generated from shipment data (STAGED records that have been shipped.
- Payments against invoices
- Payments on account (no specific invoice)
- Credit Memos generated from ORDERS activity.
- Cash payments for goods, services sold
- Adjustments to customer account (no specific invoice)
- Other charges to Customer's account, such as interest on unpaid balances that might be added to system later.

The table stores transaction records that are linked in several ways to other tables. Relational indexes link these records to PROCUS and to ODERS.
The types of data and the processes that feed them may be summarized as follows:

- Billing data - a single Customer Order may have multiple invoices applied to it, reflecting incremental shipments over time. The billing/invoice generation process is driven by the SHIPMENTS record's containing shipped but not invoiced quantities, and is priced at the L/I unit prices in the ORDERS record. This process includes a built-in balancing process. Invoices are generated only via STAGED and ORDERS records and this process. As each invoice's data is generated, a record is generated to the CAB transaction table, enabling a detailed audit trail, aging, and to provide the basis for posting either via report or software link to the GL transaction file.

- Payment data - a single Customer Order's invoices may have multiple payments, either partial payments against a single invoice, and/or due to multiple invoices against a single Customer Order. Entries are tied to the Payments table, which provides a batch balancing entry methodology for remittance processing. Incoming payments are first entered, then posted to the A/R table once the batch is balanced. The entry process validates linkages to Invoice and therefore to CUSTORD. It is also designed to support system prepared bank deposit slips.

- Adjustment data - transactions affecting the customer's account balance may be generated that cannot be tied to a CUSTORD record. These are entered via a separate screen.

Repair Order (RATS or ROTS) (new) - This record contains all data about a repaired unit. In many ways it is similar to a manufacturing work order. The sales (or credit) activity related to repaired units is linked to an ORDERS record. The RATS/ROTS table key functions include:

- Track unit through all planned and actual movements, from receipt through repair and shipment back to customer on the linked ORDERS record.
- Tracking of material issued to the RATS record, including both cost and sales pricing.
- Provides accounting basis for actual warranty expense, via costing functions, (as distinct from sales pricing).
- Collects failure mode data for products for QA purposes, including both reported problems, the results of repair tech's analysis, and any subsequent tests.
- For products that are identified as under serial number tracking, updates related Unit ID records for unit history and configuration history purposes.
- Allows exchange of refurbished or new unit from inventory for non-functional customer units, including Unit ID links.

Inventory Transaction History - Each item picked & issued from inventory to the Customer Order will have a record in this table to provide an inventory audit trail.

Part Master - Contains pricing information for each item to be sold, including:

- Multiple price lists for each product, linked to PROCUS record for selction of price list to be used to calculate default prices for CUSORD record's line items. The pricing for a configure to order item (Configured P/N? = Y in the Part Master table record) uses the same price lists or other parameters, but is calculated from the configuration list.

- For Finished Goods product and spare parts issued to a Repair Order record and ultimately billed/sold on the related CUSTORD record when the repaired unit is shipped.

Part Master also contains Configure/Assemble to Order data, including:

- Configured P/N? Flag - if this flag = Y, then order processing will prompt for the configuration list if there are options, otherwise will treat it, from an order entry viewpoint, like any other part number. Causes the Cust Ord L/I Type to indicate that the L/I is a configured part, to trigger other processes.
- Configuration List - this is a list that controls the product configuration options and includes several fields which work togther. These form a multi-value stack identifying the item number in the configuration list, the part number that belongs to that line item, and a code indicating whether the item is a mandatory selection or only optional.

  - Item Number - this is a sequential number that identifies each category of mandatory or optional items that comprises the completed configuration. Duplicate Item Numbers are allowed if the Mandatory or Optional Flag indicates that all lines with the same Item number are optional.
  - Part Number - this is a part number in the Part Master that is part of this configuration list. Only Part Numbers that themselves do not have their Configured P/N? Flag set to Y can be part of a configuration list. Other purchased or manufactured part numbers can be in a list.
  - Conifiguration Quantity - this is the quantity of the part number that is used in this configuration if it is mandatory. If the item is optional, the configuration quantity is a default value to be used along with the selection process.
  - Mandatory? - this is a flag that, if = Yes, indicates that this line item number, which can have only one occurance, is required as a part of this configuration list. If = No, it indicates that this line item is an optional part of the configuration list and must be selected during order entry in order to be included in the resulting configuration.

Unit History (Serial Number Master) - This table provides a cumulative history of changes, repairs made to a specific unit. Links into the Customer Profile record for End Users.

Detailed Data Dictionaries & Functions Using Them

This section defines the data fields to be used in each major table in the CS Module. Each record defined in summary fashion above is defined in detail below, including related specific functions that provide or use the data, and related other data fields.

Prospects, Customers, Contacts, Names (PROCUS)

This is the central table for the contact management system and consists of the PROCUS table, Contact History (CONHIST), and a series of Profile records associated with each customer type. Please refer to the A/Rev data dictionaries for these tables, and to the Prospects & Customers Flow chart that depicts the relationships between these different, but linked tables.

Each PROCUS record has one or more type codes. Each type code has one or more profile records associated with it. A Customer Type to Profile record table informs the program as to which Customer Types are valid, and what the associated profile record table names are. As a result, new customer t ypes and profile records can be added without having to modify the prospect and customer access and control software.

Customer Order Record (ORDERS)

This record includes data in several groups of fields. In summary form, these are:

- Order header data - including order number, order type, sold to customer ID, bill to and ship to address links, and the basis for pricing calculations.

- Order change audit trail - a multi-value stack is provided showing a history of when changes were made to the order and by whom.

Field Name	Description	S/Mult iValue	Comments
ORDNUM (Record ID)	Unique identifier for the order record	S	Incremental integer record ID assigned by program.
ORDTYPE	Customer Order Type code	S	Identifies order type; causes different program functions depending on type; valid types include RAXX (return authorization types), COXX (regular customer order types for sale); others as defined.
SOLDTO	Sold To Customer ID for this order;	S	must be in PROCUS table
BILLTO	Bill-To Cust ID	S	Defaults to Sold To Cust-ID; must be in PROCUS table
SHIPTO	Ship To Cust ID		
BILLADDR	Address in PROCUS to use as Bill To Address	S	Defaults to primary address, or an identified alternate address code.
SHIPADDR	Address in PROCUS to use as Ship To Address	S	Defaults to Primary address, or an identified alternate address code.
SELLCODE			Sales "flavor" code
BILLCODE			Bill to "Flavor" code
SHIPCODE			Ship to "Flavor" code
CUSTCONTACT	Customer Contact Name	M	Customer contact supplying order data, for either new or change to existing cust. order.
FLAKE	Y/N Flag that, when Y, provides caution signal	S	Flag that signals customer service rep to pay extra attention to this customer due to a history of problems

PRICELIST	Price List No.	S	Pricing list number used to generate default unit selling prices on order; obtained from PROCUS record for Sold-To Customer-ID.
TERMSLIST	Terms List No.	S	Terms List under which this order was sold.
STATUS	Status of this Order number	S	Updated by various programs; see status types listing & explanation
CURRENCY	Currency; default to US, other foreign	S	Type of currency in which order taken/valued
CREDIT	Credit Status	S	Credit OK, HOLD, etc.
ORDDATE	Order Date	S	Date order placed/entered
TAXPROC	Tax process Name	S	Name of procedure used to computer Tax.
AUDNAME	Order Updated by User-ID	M	AMV stack "key"; user ID from system log-on
AUDDATE	Date Updated	M	Date record was saved; from system clock
AUDTIME	Time Updated	M	Time record was saved; from system clock
PAYMETH	Payment Method	S	Validates against PAYMETH table.
CARDNUM	Credit Card No.	S	Credit Card or Check No.
EXPMMYY	Credit Card expiration date	S	Expiration date, MM/YY format
AUTHNUM	Authorization Number	S	Credit Card or other auhtorization
SHIPCHARGE	Shipping Charge	S	Shipping charge for this order.
CUSTNOTES	Notes for customer to see	S	Freeform text - prints on Packlist and/or Invoice.
NOTES	Internal use only notes	S	Free form text - does not print on any document customer might see.
ORDTOT	Order Total	s	Total amount of order, including Tax.
LINEID	Line Numbers	M	Relational index list containing record ID's of all L/I's carrying this Order No.
TBPIDS	To Be Picked record ID's	M	Relational Index of To Be Picked record ID's for this Order number.

SALESPERSON	Sales Person	S	Sales Person taking order.
ADJCODE	Adjustment Code	M	M/V stack of adjustment lines
ADJAMT	Adjustment Amount	M	Valie of this adjustment line & code value.
ROIDS - to be repl'd w/B-tree index.	Repair Order ID's	M	Relational Index of Repair Order record ID's
SHIPMETHOD	Shipping Method	S	Shipping Method to be used
SHIPCOMMENTS	Shipping Comments	S	Comments regarding shipment arrangements
SHIPPHONE	Ship to Phone No.	S	Phone Number for this shipment - either selected from PROCUS or STORE record, or entered for this order only
CALLTAG	Issue Call Tag(s)	S	Y/N field; if Y, indicates that Call Tag(s) are to be issued for the units returned on this order; one for each SN.

Customer Order Detail (ORDERDTL) Table

This record is organized essentially around Scheduled Shipment dates, although the date is not part of a record ID. This allows each record to represent a single scheduled shipment increment, with records being added or deleted only if the number of shipment increments changes. Otherwise, schedule changes can be easily accommodated by simply updating these records. This structure allows continuous interactive retrieval of customer order demand information, organized by date, without preprocessing.

A relational index from this table links all detail records to their order header record (ORDERS), while a part number index on L/I part number provides rapid part number level retrievals. Some data is carried redundantly, such as line item unit prices, and other data. This supports the rapid retrieval of date oriented demand data, and eliminates the need to carry a L/I level list in another table. With this structure, the system is able to support multiple line items on the same order, and multiple scheduled shipment increments per line item.

When processed by the various programs that make up the flow, this structure provides a "balance forward" methodology, in which the various quantity fields can be changed at any point in time, the scheduled shipment dates change, etc., without becoming involved in complex logic. Scheduled Shipment date/quantity status is simply the quantity left on that shipment increment. The sum of these provides the quantity remaining for the line item.

Field Name	Description	S/Mult iValue	Comments
ID	Customer Order Detail No. - Record ID	S	Sequential record ID number, system assigned; not significant, not linked to CO number; appears in LINENOS field for the related CO Header record.
ORDNUM	Customer Order Number header Record ID	S	CO Header record for these detail records.
LINUM	Line Item Number	S	identifies each order line; carried on each Detail record where multiple Ship Dates exist for same line item
ITYPE	Line Item Type	S	Indicates type of item sold; Inventory type (I), Warranty (W), or Service (S); linked to order type functions.

PART	L/I Part Number	S	AIMS/ERP Part Number being sold; may be blank or free-form entry if L/I Type is not = I; carried on each Detail record where multiple Ship Dates exist for same line item;
PARTDESC	L/I Description	S	If L/I Type = I, must be the Part Master description; otherwise can be free-form entry; carried on each Detail record where multiple Ship Dates exist for same line item
ORDQTY	Requested Order Quantity for this Ship Date	S	Quantity to be shipped associated with this ship date; sum of all quantities with same LINO equals L/I Total Quantity Ordered.
POPART	Purchaser's Part Number	S	Purchaser's Part Number.
PONUM	Purchaser's PO No.	M	Purchase Order Number from customer
POLINE	PO Line Item number	S	Customer's PO line item number.
REQSHIPDATE	Requested Shipment Date	S	Requested Shipment Date for this shipment increment
ACTSHIPDATE	Actual Ship Date	M	Updated by Shipment processes
QTYRNP	Released Not Picked Qty	S	Quantity carried in an CO Open Pick record for this Shipment increment; added to by Pick generation program, subtracted by pick/issue program.
QTYALLOC	Qty Allocated	S	Quantity of this Shipment increment assigned via the allocation process; may not be greater than QTYREM when generated; added to by Allocation program, subtracted by Shipment Confirm program.
QTYPICK	Quantity Picked/issued	M	Quantity of this Shipment increment picked and issued from inventory to this cust. order by order picking program.

QTYSHIP	L/I Quantity Shipped	M	quantity of this Shipment increment shipped on this cust. order by shippintg confirmation program.
ALLOCPROC	Allocation Procedure Name	S	Allocation procedure used to generate QTYALLOC values.
UNITPRICE	L/I Unit Price	S	Price for this L/I; carried on each Detail record where multiple Ship Dates exist for same line item; carried on each Detail record where multiple Ship Dates exist for same line item
TAX	L/I total tax amount	S	Total Sales tax for this line item; carried on each Detail record where multiple Ship Dates exist for same line item
QTYREM	Quantity Remaining	S	Symbolic - Quantity Ordered minus Quantity Shipped
UNITID	Serial Number of Unit; also in Unit History record	S	Used only for selling Ext. Warranties; ITYPE must be = "W" (Warranty)
EXPDATE	Expiration Date of Extended Warr.	S	Used only for selling Ext. Warranties; ITYPE must be = "W" (Warranty)

Order Line Item Type Codes -

These codes, carried in the ORDERDTL records, indicate variations in the sources by which the PART values in the records were generated. These involve diferent references in where the contents are validated. They are present in the records partly to identify for reference purposes, and partly to allow for order types where they can be mixed at order entry time. Currently, the only mixing of line item types is in the line item charges for a Repair Order, where both inventory item and service items can be charged. All programs writing ORDERDTL records must update these values according to the table below.

L/II Type Code	Description	Comments
I	Inventory item	Used for items that are carried in inventory, then picked and shipped on a part number by part number basis; indicates that the contents of the PART field is both in the Part Master record and in the Inventory table.
S	Services item	Used for charging of Services, as stored in the SERVICES table; no inventory transaction is involved. Services are "shipped" when the unit they are associated with is shipped; used only for and RO.
W	Warranty item	For sale of (extended) warranties; while a certificate P/N is picked, staged and shipped, the contents of the PART line is in the PRODUCTS table, where the warranty sale options for that product are also stored.
C	Configured item	For products that, in themselves are not stored as a single p/n, but are configured from a list of required/optional selections, which in turn are valid P/N's and are issued to the Order from Inventory via a special picking process.

Customer Order Field Key Functions

Key features of the Customer Order Header and Customer Order Detail tables and associated system functions related to specific data fields or groups of fields are summarized below:

Customer Order Type - This order type code indicates which type of CO the individual record is. Various programs to enter new records into the CO table will create one or more types of order records. For example, Return Authorizations (RA's) come in several types, each of which includes different functionality. All are in the CO table. CO's for sales purposes (outbound shipments) will also come in multiple types, each of which has a different code.

Customer ID's - each order record normally will have only one PROCUS customer ID number, but may have different Sold To Customer ID's and Bill To Customer ID's. If there is only one all other addresses such as different bill to and ship to's are subordinate to this single customer ID. For example, a Dealer may be the customer, but may direct both shipment and billing to a store owned by that Dealer.

Address ID - Code that allows multiple addresses to be linked to a given PROCUS record, each address being for a separate purpose. Normal, standard addresses are described below:

> Billing Addresses - each order can use any PROCUS record as the source of its Billing Address, allowing the Sold To and Bill to Customer ID's to be different, but the billing to address cannot be manually overrridden at order entry time.

> Shipping Addresses - each order can use any of several address sources as the shipping addresses, which can also be overridden manually at order entry time. These addresses can be either the identified ship to address in the customer record, which in turn can default to the bill to or physical location address ("the address") or a dealer profile record address linked to a store the customer owns.

Ordering Data Updates - all changes to a CO would update an audit trail multi-value stack.

Line Item Detail - one CO can have multiple line items. Line items can be either tangible (inventory items to pick & ship) or intangible (services). Other types are possible for future enhancements if needed, based on the line item type concept.

Shipment Dates - Each line item can have multiple scheduled shipment dates and associated shipment quantities. This schedule can be updated at any time. Any previous shipments made to date are automatically reapplied.

Pricing - Uses a pricing calculation process by defining and then referring to a named procedure by which price is calculated. Each customer could, in theory, have a different named procedure by which his prices are generated. These procedures can use a variety of data & parameters to drive them, such as pricing control data in the PROCUS table record for each customer, and base pricing in the Part Master for each item. Services would use a separate table to identify standard services and prices for them. Both would use a multiple standard price lists concept, where each part number has multiple prices, the price list number identifying which a given customer is to get. Pricing variable data would be stored (in background) in the CO record for audit trail purposes.

Credit Management - all linkages/controls would tie back to the PROCUS record, with the order type and entry program(s) controlling the specific logic to be used for the order type.

NOTE: This report is a "Bill of Material" report, and as such, does not show linkages between required part numbers and their routing. A Bill of Material includes all material required to make the Parent Part Number at a given assembly level, regardless of which operation number the material is connected to. This requires retrieving all production configuration records for a given parent part number then combining the resulting lists.

Customer Order Type Table

This table defines and provides a transaction from an Customer Order Type Code (ORDTYPE in Customer Order Header record) to text transaction of it. These are carried in the CUSTTYPES popup window data.

Order Type Code	Description	Associated Sell Group for this Order Type (in Part Master)
MER	Merchandise Orders	MER
PRTS	Spare Parts Orders	PRTS
RTN	Product Return - to FG stock for credit	None
FG	Finished Good Products	FG
Planned Order Types:		
JOB	Job/Project	Not applicable; uses Estimate records
CON	Consigned FG products	CON
LOAN	Items shipped out to be returned in original state, i.e., loaned	LOAN

Customer Order Open Pick (TOBEPICKED)

This table stores data identifying items and quantities that have been selected for picking, staging and shipment. It is added to by the pick generation program and updated and/or deleted by Pick/Issue to a Customer Order program.

Indexes on the Part Number and Order number fields allow grouped access for viewing and reporting.

Field Name	Description	S/M	Comment
ID	Record ID	S	Non-significant, incremental record ID
PART	Part Number	S	Identifies Part Number to be picked.
ORDNUM	Customer Order Number	S	Order number for this to be picked part number & qty.
LINENUM	Customer Order Line Item No.	S	Line Item of this Part Number on this Customer Order No.
RNPQTY	Released, not yet picked quantity	S	Quantity for this Customer Order No. that is to be picked, all scheduled shipment dates
PICKQTY	Quantity actually picked & issued to the customer order	S	Quantity issued of this part number to the Customer Order and Line Item No. When Pick Qty = RNP Qty, the record is deleted from the table.
AUDNAME	Person Updating	M	system log on value
AUDDATE	Date Last Updated	M	System date
AUDTIME	Time of last Update	M	System time

Customer Order Staged Shipments (STAGED)

This table is a temporary holding and association table providing a dynamic, real-time file to successively link units during the staging and shipping preparation process, and will contain at all times those items that are physically located in the Staging area. It may also contain orders that were picked to an order and are awaiting approval of a pre-payment, or are staged awaiting shipment (which also requires a re-verification of credit status).

STAGED records are created via two basic processes and include all items physically in the Staging area but that have been removed from perpetual warehouse/location inventory. The contents of the records will differ initially, depending on how created, but will all have an ORDERNO and ORDLINO by the time they are ready to be shipped. Other details associated with these two basic processes include:

Picked to an Order - records contain order line item part numbers and quantities that were actually picked and are packaged awaiting approval of a payment or other clearance for shipment.

Bulk issue to STAGED - records generated contain the quantity that is the minimum ship quantity; normally this will be 1, so a Unit ID can be scanned and stored in the first available record for that Part Number that doesn't have a Unit ID entered into it. Successive updates will assign carton ID's to multiple records containing the Unit ID's that are in the cartons. If needed, Pallet ID's can be associated in the same fashion. The quantity to be used for these records is the Minimum Shippable Quantity, carried in the Part Master table for the part number. These quantities must also be cleared for credit or other financial approval prior to being shipped.

Field Name	Description	S/M	Comment
STAGEID	Record ID - identifies this STAGED record	S	Non-significant identifier for this record - record contains minimum ship quantity of this item
BULKFLAG	Flag indicating how record was created	S	"Yes" indicates that this record was created via a bulk issue to STAGED; "No" indicates that it was created via a Pick/Issue to an Order process.

PARTNO	Part Number identifying this item	S	Part Number identifying item; ultimately taken from the ORDERDTL data for this ORDERNO. Normally is in the Part Master table; certain order types may allow shipment of a non-part numbered item, in which case this PARTNO will not be in the Part Master table.
STAGEQTY	Quantity of PARTNO	S	Will be the Case/Minimimum Ship Quantity (from Part Master) if the record was created via a bulk issue to STAGED; is the Pick/Issued Quantity if created via a pick/issue to an Order.
UNITID	Unit ID of PARTNO	S	Scanned from Unit; associates PARTNO with a Unit ID; for bulk issue to STAGED only; not used for Pick to Order; Indexed field.
CARTONID	Unique Carton ID	S	Carton identifier, each SN in the same carton ID carries that carton ID number; Indexed field
PALLETID	Unique Pallet ID	S	Pallet identifier, each Carton and/or SN in the same pallet ID carries that pallet ID.
CONTAINERID	Unique Container ID	S	Container identifier, each Pallet in the same container ID carries that container ID number.
ORDERNO	Customer Order No.	S	Customer order number this shipment is for; carried in each record belonging to this ORDERNO. - Indexed field
ORDLINO	Line Item Number	S	Line Item which issue was posted to, and to which shipment will also be posted
ORDTYP	Order Type	S	Carried forward from ORDERS record for this ORDERNO.
AUDNAME	User-ID of person creating this record	M	System Logon User-ID value
AUDDATE	Date Created/Updated	M	System date
AUDTIME	Time Created/Updated	M	System Time

ISSUEORDNO	Order Number that items were bulk issued because of	S	Order Number in the TOBEPICKED record that was part of a bulk issue transaction quantity issued for staging purposes; not used in Pick/Issue/Stage by Order No.
STAGEDAMT	Dollar Amount of order/items staged	S	Same as STAGEDAMT in Orders record; generated by Pick/Issue Orders to Staging program.

Shipment History (SHIPMENTS)

This table contains one record for each shipper number assigned, plus all shipment specific associated data, including carton ID comprising the shipment, serial numbers of units in each carton. Actual shipment address, method, and data used to generate invoice data.

The records are created by the Shipment Confirmation program's archiving function, in effect, copying data from the COSS records into this table, deleting it from the COSS table.

The table is structured to provide an easy to access, stable record of each shipment, whether a simple, small item in a box, or a container-sized load of multiple pallets. Much of the data is also posted to other tables. The associated ORDER record is posted with shipped quantities, unit history data is posted with the customer & order data.

The table serves as a shipment archive table, and to provide a stable basis for the invoicing process. If the shipment involves special circumstances, there may be one or more ancillary records linked to the SHIPMENT record of a particular shipment.

If the order type involved consigned inventory, the SHIPMENT table serves to track these units in a shipped but not billed state.   When title to these units changes, reflected by a consigned unit sales reporting screen entry, the sold units that are part or all of a shipment are invoiced.

When the Invoicing function generates one or more invoices for the items recorded as shipped to this customer, this data is added to the associated shipment records.

Field Name	Description	S/M	Comment
ID	Shipper No. (Record ID)	S	Identifies all items shipped under this Shipper No.
MANIFEST	Manifest No	S	Optional; Shipping company manifest number; or system produced manifest listing all shippers within the same larger shipment, i.e., truck or container load.
NAME	Ship To name	S	
ORDNUM	Customer Order No.	S	Customer Order Number against which this Shipper was made.

ADDR	Actual Shipped to Address; street address	S	Retrieved via CUSTORD link from PROCUS; stores address to which shipment was directed, as of the time of actual shipment & shipment confirmation.
CITY	City shipped to portion of address	S	Same as street
STATE	State shipped portion of address	S	Same as street.
ZIP	Zip shipped portion of address	S	Same as street.
COUNTRY	Country shiped portion of address	S	Same as street.
CONFDATE	Date shipped per Ship Confirmation	S	Stamped by shipment confirmation program.
AUDNAME	User ID of person changing Shipper record	M	System value
AUDDATE	date shipment record was updated	M	System value.
AUDTIME	Time shipment record was updated	M	System value.
CONFTIME	Ship Conf Time	S	Time that shipment confirmation was entered; from system.
CHGAMT	Shipping Charge Amount	S	$ amount for shipping charge for this shipment
PALLETS	Number of Pallets in this shipment	S	May be either the number (quantity) of pallets in the shipment, or a list of specific pallet ID's.
CARTONS	Shipment Number of Cartons	S	Total number of cartons comprising this individual shipment all L/I's.
WEIGHT	Shipment Weight	S	Total weight of all cartons in this individual shipment.
PARTQTY	Qty of Part Shipped	S	
PART	Part Number identifying this item	M	Part Number; same as on CUSTORD L/I
CARTONIDS	Carton ID's for this L/I	M	Carton ID links; list of all carton ID's comprising the Shipped quantity for this L/I Sub-Value "stack"

CARTONUNITS	Carton-Unit ID's	M	Unit ID's (SN's) of units within each Carton ID; forms a "sub-sub value" list to identify each SN within each Carton ID
INVNUM	Invoice Number	M	"key' to invoicing stack
VIA	Name of shipping company	S	Name of company transporting product, i.e., UPS, USPS, Yellow Freight, etc.
SERIALS	Serial Numbers of Part(s) shipped	M	Unassociated list of Unit ID's
LINENUM	Line Number of the PART on the order	M	New data field 1/6/95; associated with PART
DESC	Description	M	New data field 1/6/95; associated with PART; obtained from ORDERDTL, or if blank, from Part Master, or Services Master
ORDTYPE	Order Type of the related ORDERS record	S	New data field 1/6/95; to speed retrievals & selects
UNITHISTDATE	Date Unit History is Updated Planned for Consignment Sales Support	S	Date is entered by Unit History posting process for this Shipper.
SPART	Sold Part No.	M	Key to M/V List
SQTY	Sold Qty	M	
SUNITID	Sold Unit ID	M	Must be null if qty is GT 1
SINVNO	Sold Invoice No		Invoice Number that this Unit ID or Qty of an Item was billed on
SDATE	Date this line in Report of Sale	M	Updated via Report of Sale program
SBY	User ID of Person Reporting Sale	M	
CLSDATE	Closed Date	S	Date all units on this Shipment are reported sold.

Repair Order Table (ROTS)

This table contains all data stored in the RATS record, plus additional data fields to provide enhanced capabilites. It is linked to the Order record, which can have multiple R/O records. A single Order Number can be used to authorize the return of multiple units, each of which has a serial number and a R/O record.

Repair Orders have a "life cycle" of their own, separate from the Order Status to which one or more R/O's are linked. This status is concerned only with what state the repair work itself is in. The status codes and their states (carried in the ROSTAT popup window's data) are:

NEW - Repair Order entered, Return Authorization Order Number has been issued, for either in-house return/repair, or for referral to a Service Center. No action has been taken. Set by R/O entry program.

OPEN - Repair Order open. Unit has been received in house, or reported as received at a Svc Center. Work may or may not have begun. Will have at least one Event reported. Set by Receiving program.

DONE - Repair reported as completed by Technician during technician data entry. Ready for review & charge preparation/entry.

RVWD - Repairs reviewed by Repair Billing Analyst and charges entered into the Order Line Item data; unit ready to ship when payment/credit is authorized. No more parts may be issued to this R/O and no more hours may be charged to it by technicians. Ready for payment/credit authorization.

CLSD - Unit reported as shipped, on the repaired units shipment screen, or if the disposition was return to stock, this action was completed. This status also applies if the R/O was cancelled or otherwise closed without a shipment or return to stock being performed.

VOID - This R/O is flagged for non-use; entered in error, or customer changed his mind. Function is to remove it from available for receipt, or other report listings. Linkage to Orders record is retained.

Related ORDERS record STATUS changes are:

ROTS status	ORDERS status
NEW	NEW
OPEN	REL
DONE	REL
RVWD	REL
CLSD	REL if there are other R/O's not shipped belonging to this ORDERNUM.
	SC if all R/O's belonging to this ORDERNUM are

CLSD, but all are not invoiced
BC when all R/O's belonging to this ORDERNUM
are invoiced.

All related ROs are
VOIDED

CANC - if this status is entered, all realted RO's are
 changed to VOID status.

Field Name	Description	S/M	RATS Equiv.	Comment
ID	Record ID	S	None	Non-Significant, sequential Record Identifier
ROSTAT	Repair Order Status	S	None	Status of this R/O; separate from Order Status; must be in ROSTAT popup data.
ORDERNUM	Order Number	S	RA No.	Order Number to which this R/O record belongs; must be in Orders table.
PROCUSID	Customer ID	S	ID	ID to whom issued; must be in PROCUS
STORE	Store ID	S	STORE	Store record ID - links to Store if a multi-store Dealer is the customer.
DLRCUST	Dealer or Customer Unit Flag	S	DLRCUST	Indicates if unit is returned by the Dealer in behalf of a customer, or from his stock (still new), or if by the registered owner of the unit.
PRODUCT	Product Code	S	PROD	Product Code of Unit being repaired; must be in Products table
PARTNUM	Part Number	S	PARTNUM	Part Number of unit being repaired; must be in Part Master
UNITID	Unit ID/ Serial Number	S	SERIAL	Unit ID / Serial Number of unit being returned- must be in Unit Hist
OWNERID	Owner of Unit	S	OWNERID	Owner of Unit; must be shown as OWNER in Unit Hist record for SN- may be different than Customer; may be blank if a Dealer inventory unit;

SVCCNTR	Service Center ID	S	CIMSVCCNTR	Service Center ID - Must be in PROCUS; present only if unit is to be sent to this SVC; will not be rec'd in house.
CSRCOMDATE	CSR Comment Date	M	None	Date of CSR Comment line "key" to MV list
CSRCOMTIME	CSR Comment Time	M	None	Time of SCR Comment line entry
CSRCOM	Customer Svc Rep Comment	M	CSRCOMMENTS	Separate comment line for each date/time
RTNCODE	Return Reason	S	None	Reason unit is being returned; upgrade, mod's repair (may or may not have a complaint code); must be in RTNCODES popup list
COMPLCODE	Complaint Code	M	COMPLCODE	If being returned because not working OK, symptoms reported by customer; must be in COMPLCODES popup list
EVENT	Event Date	M	EVENT	Code for Event M/V list; must be in EVENTS popup list
EDATE	Event Date	M	EDATE	Date of Event; system date at time of event
ETIME	Event Time	M	ETIME	Time of Event; system time at time of event
EMPNO	Person Emp ID	M	PERSON	Employee No. of person entering event; must be in EMPLS table.
RCVNOTICE	Receiving Notice	S	RCVNOTICE	Text to be display upon receipt of unit
RCVLOC	Received Loc'n	S	None	Indicates where unit was received; = Dock if in-house receipt; = SVCID if rec'd offsite (at Svc Ctr)
PWRSUPRCV	Power Supply Rec'd w/Unit	S	PWRSUPRCV	Present only if a Receiving Event was entered
CTNOK	Carton Condition OK?	S	CTNOK	Present only if a Receiving Event was entered; indicates external condition of shipping carton (as rec'd)

UNITOK	Unit Condition OK?	S	UNITOK	Present only if a Receiving Event was entered; indicates external condition of unit (as rec'd)
ACCESSORIES	Accessories	M	ACCESSORIES	Lists codes from ACCESSORY CODES popup window data showing which standard unit accessories were rec'd with the unit.
SHIPINBY	Inbound Shipping Co.	S	SHIPINBHY	Indicates name of shipper, i.e., UPS, USPS, Fedex, etc.
RCV_COMMENTS	Received by	S	RCV_COMMENTS	Text comment from receiving screen
AUDNAME	Name of person updating record	M	AUDNAME	Logon system User ID; key to MV list
AUDDATE	Date of Update	M	AUDDATE	System Date at update
AUDTIME	Time of update	M	AUDTIME	System Time at update.
PRIORITY	Priority of Repair	S	PRIORITY	Repair work priority
MFAILCODE	Major Failure Code	M	DEFECTS - closest	Major cause(s) of unit not working OK; must be in MFAILCODES for Product
SFAILCODE	Sub Failure Code	M	None	Sub cause(s) of unit not working OK; must be in S FAILCODES for Product
DISPCODE	Disposition Code	S	None	Similar to part of the RA Type code; indicates disposition action authorized by customer; must be in DISPCODES POPUP data.
WARRANTY	Warranty Status	S	None	Similar to part of the RA Type code; indicates payment responsibility (Customer, Warranty, Shared)
QUOTE	Repair cost Quote	S	QUOTE	Cost of repair quoted to customer
NTECOST	Not To Exceed	S	None	Different from Quote; stores customer max he will pay for repair.

REPAIRS	Repair Code(s)	M	REPAIRS	Actions taken by Tech; must be in REPAIRCODES popup data
PARTS-USED	Parts Used	M	PARTS_USED	Part Number of part issued to this R/O (I/U code); must be in part master: MV List "key"
ISSUE/USE	Issued/Used Flag	M	None	Indicates whether this P/N was issued from Inventory ("I") or entered as used from bench/floor stock ("U")
PARTQTY	Part Quantity	M	None	Quantity of Part Issued or reported as Used
TECHNO	Technician Empl No.	M	None	Technician's Employee No. from Emp . table working on unit
TECHHRS	Technician Hours	M	None	Hours this technician reported as working on the unit.
TECHHRON	Tech Start Time	M	None	Start Time when Technician "logged on" to this R/O for this unit
TECHHROFF	Tech Off Time	M	None	Off Time when Technician "logged off" of this R/O for this unit.
TECHRATE	Tech's Hourly Rate Cost	M	None	Tech's hourly rate, shown in Employee Table.
TECHDATE	Technician Date	M	None	Date that Tech Hrs were performed on.
REPAIRS	Repair Code(s)	M	REPAIRS	Actions taken by Tech; must be in REPAIRCODES popup data
EPROM_IN	Eprom In unit when rec/d	S	EPROM_IN	Indicates software version in unit at receipt
EPROM_OUT	Eprom in unit when shipped	S	EMPROM_OUT	Indicates software version in unit when shipped
TECHCOMMENTS	Technician Comments	S	RPR_COMMENTS	Comments about repair & unit made by Repair Tech.
PRDUPDATES	Product Updates	M	None	Product update list
CKLSTQUESTNUM	Check List Question Number	M	None	"key" to MV list of questions from Prod. table
CKLSTQUESTREVE	Check List Question Rev.	M	None	Revision to question number-"version" of this question.

| CKLSTRESPTYPE | Check List Response Type | M | None | Type of response req'd for this question number/revision |
| CKLSTQUESTRESP | Check List Question Resp. | M | None | Response to this question number/revision |

Pending Prepayments Table (PREPMTS)

This table is a temporary holding table, indicating that a prepayment is needed to ship a prepaid order. The Pick Orders to Staging program creates these records for ordes with a TERMS type that is Prepaid. These may be credit cards, cash or checks. For credit cards, the data is used to process credit card transactions, either via a manual terminal, or via an automatic process. Checks and cash payments are simply entered.

In the future, an automatic credit card processing capability may be added that will clear these records and post CUSBAL PAY records automatically. The manual and automatic processes are summarized below.

This results in the prepaid order being held in the staging area until a payment is entered in the Customer Balance table for it.

Once in this table, the payments are processed via one of two methods:

Manual process - credit card transaction is submitted manually using either a dedicated credit card transaction terminal, or is phoned in to the card company. In either case, the result is an authorization number. The Prepayments entry screen is linked to this table, and when the actual payment is entered, creating the CUSBAL PAY type record, the record in this table, if it is present, is deleted.

Automatic process - A separate program selects records from this table and uploads them to a credit card service. The payments are processed, with only the rejected transactions being returned. The payment approval process reads the rejected transaction file that returns from the credit card company, matches its processing information against the pending file's records, flags rejected transactions, then processes the others as approved, adding them to the CUSBAL table. These records in turn will allow the related Customer Order to be released for shipping.

Field Name	Description	S/M	Comment
ID	Record ID -	S	Incremental number assigned by system providing unique transaction ID
ORDERNO	Customer Order No. for this transaction	S	Will normally be in the STAGED table, with a status of REL or PC in its ORDERS record.

PAYFORM	Payment Form/Type, Card, Check, Cash	S	Indicates type of prepayment. Uses Payment Types as used in CUSBAL records, FORM field. Determines whether Card Number is a CC number or a check number if present in the Orders record.
CARDNUM	Credit Card No.	S	Number of Credit Card against which payment is to be submitted. May be blank of PAYFORM is not CARD.
EXPDATE	Expiration Date of card	S	Blank if PAYFORM is not CARD.
STAGEDAMT	Amount to be charged to card	S	Generated via a "pro forma" invoice process from part numbers & quantities staged, using ORDERDTL Unit Price data and other data to calculated payment amount.
AUDTIME	Time transaction added to the table	M	Time transaction was entered; system data
AUDDATE	Date transaction added to the table	M	Date transaction was entered; system data
AUDNAME	User ID of person updating this record	M	Name of update person will be more than one only if multiple pick order to staging events (one or more transactions) are performed at different times.
PAYIDS	PAYID's	M	ID(s) of any already existing CUSBAL PAY type transactions with this ORDERNO that have REMAMT values greater than zero, indicates a payment that may be used to partially satisfy the STAGEDAMT.
REMAMTS	Remaining Amts	M	Associated REMAMTS of the PAYIDs

Invoice Table (INVOICES)

This table contains one record for each invoice generates, and includes all data that appeared on that invoice. Fields contain linking data to show the basis for the invoice, in the SHIPMENTS table, and the updating of the customer's account in the CUSBAL table.

Field Name	Description	S/M	Comment
INVNUM	Record ID - Identifies Invoice	S	Incremental, unique, non-significant ID for Invoice Number.
ORDNUM	Order Number in ORDERS record	S	Order that this invoice is billing against
SOLDTO	PROCUS ID of part to whom sold	S	
BILLTOADDR	Bill to Address as developed in ORDER	M	
SHIPTOADDR	Ship To address as developed in ORDER	M	
TERMSLIST	Terms List (Code) used to take order	S	
PRICELIST	Price List (Code) used to take order	S	
TAXPROC	Name of Process used for tax comp.	S	
TERMS	Result of calc given by terms list	S	
INVDATE	Invoice Date	S	
TOTSHIP	Total Shipping Charge	S	
TOTTAX	Total Tax $	S	
ITYPE	Line Item Type Code	M	Goods, Service, etc.
TOTYPE	Total $ by Item Type Code	M	
OURLINE	Our Order Line Item #	M	From ORDDTL
POLINE	Their PO Line Number	M	From ORDDTL
PART	Part Number	M	From TO BE PICKED & ORDDTL
PARTDESC	Part Number Description	M	From ORDDTL (& Part Master)
QTY	Quantity Invoiced	M	
UNITPRICE	Unit Price of Part	M	
TAX	Tax on Sale of Part	M	
SERIALS	Serial #s of Part	M	If appropriate to order type

BTYBO	Qty of Part left backordered	M	
ORDQTY	Quantity Ordered of Part	M	
PRDCODE	Product Code associated with Part	M	
SHIPPERS	Shipment Record ID for this invoice	M	
CUSTNOTES	Notes printed on invoice	S	
AUDNAME	User-ID of person creating this Invoice	S	System value
AUDDATE	Date of Change	S	System value
AUDTIME	Time Invoice created	S	System value
ADJCODE	Adjustment Type Code	S	
ADJAMT	$ Amt of adjustment	S	
PAYIDS	Transaction ID(s) of PAY type records in CUSBAL with this ORDERNO	M	ADDED 11/14/94
PAYAMT	TRANAMT of this PAYID	M	Added 11/14/94
OURNOS	OURNO list in this PAYID	M	Added 11/14/94
APPLAMTS	APPLAMT belonging with associated OURNO for this TRANID	M	Added 11/14/94
REMAMT	Amount Remaining for this PAYID	M	Added 11/14/94
LINKEDNOTES	Linked Standard Notes records	M	Used to print standard text on Packing List and/or invoice
STDMTLCST	Standard Material Cost	M	Std Costs from Part Master
STDLABCST	Standard Labor Cost	M	If I/Type is Services, retrieves Std HRS & Std Rate from SERVICES to calc Std Labor Cost; otherwise from Part Master
STDOMCST	Standard O/Mfg Cost	M	Part Master
STDOVCST	Standard Overhead Cost	M	Part Master
STDBURCST	Standard Burden Cost	M	Part Master
STDFRTCST	Standard Freight Cost	M	Part Master

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Customer Balance Table (CUSBAL)

This table contains all invoicing transaction, payments applied to either invoices or simply an open account balance, and adjustments to the amount the customer owes the company. It is the basis for printing or reprinting invoices, generating statements, aging reports, and customer account inquiries. Transaction fields are:

Field Name	Description	S/M	Comment
ID	Record ID -	S	Incremental number assigned by system providing unique transaction ID
TRANTYP	Transaction Type	S	Identifies transaction as being either an Invoice, Credit Memo, Payment, or adjustment (plus or minus)
PROCUSID	Customer ID for this transaction	S	Defines who is to be credited with this payment or charged for this invoice, etc.
OURNO	Number assigned internally	M	Invoice No. associated with this amount billed, or encrypted Credit Card No., or Payment No. if a payment
APPLAMT	Applied Amount	M	Association depends on type: If PAY type, then associates with OURNO to list invoices paid; if INV type, then associated with THEIRNO to list payments used to pay this invoice.
TRANAMT	Amount of this Transaction, signed (PAY, CR types are minus; INV, DB are positive)	S	Ether Invoice Amount, Payment amount, or adjustment amount
AUDNAME	Entered by User-ID	S	System logon
AUDDATE	Date record created/updated	S	System Date
AUDTIME	Time record created/updated	S	System Time

THEIRNO	Number belonging to customer's documentation	S	Check Number, Credit Card Number; if a Credit Card, last 4 digits are omitted
FORM	Form of payment	S	Form of transaction, (card, cash, check)
COMMENTS	Free form text	S	Transaction related text/remarks/comments
REMAMT	Remaining Balance - Symbolic	S	Net of TRANAMT minus APPLAMT amounts; may be positive, negative or zero
ORDERNO	Order Number associated with this payment or invoice	S	Added 11/14/94; allows retrievel of payment/invoice status for a given Order No.
ORDERTYPE	Order Type for the associated ORDERNO	S	Added 11/14/94; to simplify & speed up order type related reporting & inquiries
APPLDATE	Applied/Closed Date	S	Added 12/27/94 Date this transaction was fully paid or applied, i.e, close to future processing, no longer an unapplied payment or invoice with an open balance.

Transaction Type Codes for CUSBAL table.

Tran Type Code	TRANAMT sign (+ or -)	Related & Req'd Fields	Comments
INV	+ to increase amount owed	OURNO, containing INVOICE number	Single record generated for each Invoice record for this PROCUSID
PAY	- to decrease amount owed	OURNO, and APPLAMT containing Invoices paid and related amounts applied to each invoice no; THEIRNO containing cust's reference no. (check no, etc.)	Single record for each payment for this PROCUSID; also required entry in FORM field to indicate the form of payment, i.e., check, card, cash, etc.
CRM	- to decrease amount owed	May be without Invoice reference, or use ORDNO and APPLAMT to indicate partial or full credit for a particular invoice number	Credit Memo number is OURNO

DRM	+ to increase amount owed	May be without reference, e.g., account interest charge or use ORDNO and APPLAMT to create a specific surcharge to invoice link	Debit Memo number is OURNO
CDE	- to decrease amt owed	OURNO; generated to reflect discount taken and applied (earned) within discount date)	Credit Memo number is OURNO
CDC	- to derease amt owed	OURNO; generated to reflect discount taken and applied, but after the discount date, i.e., granted by the company	Credit Memo number is OURNO

Inventory Transaction History Records

Inventory Transaction History records are generated by the following events:
- Pick & Issue to Customer Order
- RA Return to Inventory

Unit History Table (UNITHIST)

This table consists of one record for each serial number unit shipped. Currently, the software does not provide for entry and tracking of product serial numbers via the shipment process, but this function is planned. Entry of the warranty card information to activate the warranty will create a unit history record.

The record contains as its key feature, an Event list, of events occuring to each serial number, such as shipment, warranty activation, sale of spare parts, return/repair orders, and change of ownership.

Please refer to the A/Rev dictionary for data fields.

Price List Table Dictionaries

This table contains all product pricing data where a simple, standardized price cannot be used, providing instead, a multiple price list data structure. Its fields are described in the table below. These tables are order type specific, and are currently defined for the following:

Merchandise - MERPRICE
Spare Parts - PRTSPRICE
Finished Products - FPPRICE

Field Name	Description	S/Mult iValue	Comments
PARTNO	Part Number - Record ID	S	Must exist in Part Master table
CUSTTYPE	Customer Type in PROCUS	M	field 1
AUDNAME	User-ID of person changing this record	S	System logon USER-ID - field 2
AUDDATE	Date record updated	S	System value - field 3
AUDTIME	Time record updated	S	System value field 4
LIST1	Price of list 1	M	Field 5
LIST2	Price of list 2	M	
LIST3	Price of list 3	M	
LIST...N	Price of list N	M	

Access logic:

Retrieves Part Master - if price is non-null, it is retrieved and stored temporarily.
Attempts retrieval of Merchandise Price Master record for part number.
If present, examines

Services Master Table (SERVICES)

This table contains one record for each standardized service offered and chargeable.
These are linked into the ORDERDTL record via a Line Item Type of "S"

Field Name	Description	S/M	Comments
SERVICNO	Service Number	S	Record ID - unique identifier for this Service
SERVICDESC	Service Description	S	Standard Description for this service
CUSTYP	Customer Type Code	M	Key to MV list of prices by customer type
LIST1	Price of List 1	M	Price to be charged under Price List No. 1 - by cust. type.
WARREIMB	Warranty Reimbursemnt Amount	S	Base amount to be reimbursed to a Service Center for this service; may be adjusted for turnaround time
TDAYS	Turnaround Days	M	Number of days between receipt & shipment of unit
TAMT	Turnaround Amount	M	Amount added to base WARREIMB for repairing unit within this number of days.
STDHRS	Standard Hours	S	Standard Hours needed to perform this service by a qualified person.
STDRATE	Standard Hourly Rate	S	Standard Hourly rate a qualified person is paid to perform this service.
PRODUCTS	Product Codes	M	Product Codes this service is designed for; must be in Products table
STDPARTS	Standard Parts Used on this Svc	M	List of Part Number normally used to perform this Service; must be in Part Master
AUDNAME	User-ID of person changing record	M	System logon USER-ID
AUDDATE	Date record updated	M	System value
AUDTIME	Time record updated	M	System value
STDCST	Service Standard Cost	S	Standard (Labor) cost for this Service (not including Parts)

Product Master Table - Warranty functions

Warranty fields are part of the Product Table.

Warranty Data:

Field Name	Description	S/M	Comment
PRODUCT	Product Code in Product Code table (Record ID)	S	keys warranties for this product
DESCRIPTION	Product Description	S	Symbolic - from Product Master,
PRODPRICE	Product Retail Price - retrieved from Product table for this Product Code	S	Symbolic; basis for calculating price for this warranty, i.e., a % of the product's list selling price.
WARRANTYNO	Warranty number - separates multiple warranties for the same product	M	"Key" to multi-value warranty stack
TERM	Term of this warranty line	M	Linked to Warranty Number; in calendar days
WARDESC	Warranty Description	M	Linked to Warranty Number for this Product.
CERTPN	Part Number of Warranty Certificate to be mailed to customer	M	Linked to Warranty Number, i.e., Certificate for warranty for this Product & Term
PRICE	Selling price of this Warranty Number.	M	Linked to Warranty Number
AUDNAME	Name (system User-ID) of person updating this record	M	Separate M/V stack for update history of this record
AUDDATE	Date (system value) this record was updated	M	Linked to AUDNAME
AUDTIME	Time (system value) this record was updated	M	Linked to AUDNAME