SYSTEM OVERVIEW

In this overview ...

MP2®
enterprise

6.0 SQL SERVER EDITION

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MP2 Enterprise 6.0 SQL Server Edition System Overview

INTRODUCTION

MP2 Enterprise is an enterprise asset management (EAM) software application that controls maintenance operations. MP2 allows for long-term growth of any size operation. With MP2, either create work orders immediately or build the database completely before creating work orders, optimizing the program's work order generation and reporting capabilities.

MP2 Enterprise is a critical corporate asset for many reasons.

- Helps you to investigate equipment downtime

- Assists you in root cause failure analysis

- Identifies hot maintenance spots in the facility

- Provides justification for additional resources

- Produces precise plant-level reports

- Generates high-level corporate roll-up reports

MP2 Enterprise's features are powerful and comprehensive, and its graphical and intuitive user interface makes it one of the easiest EAM packages to learn and use.
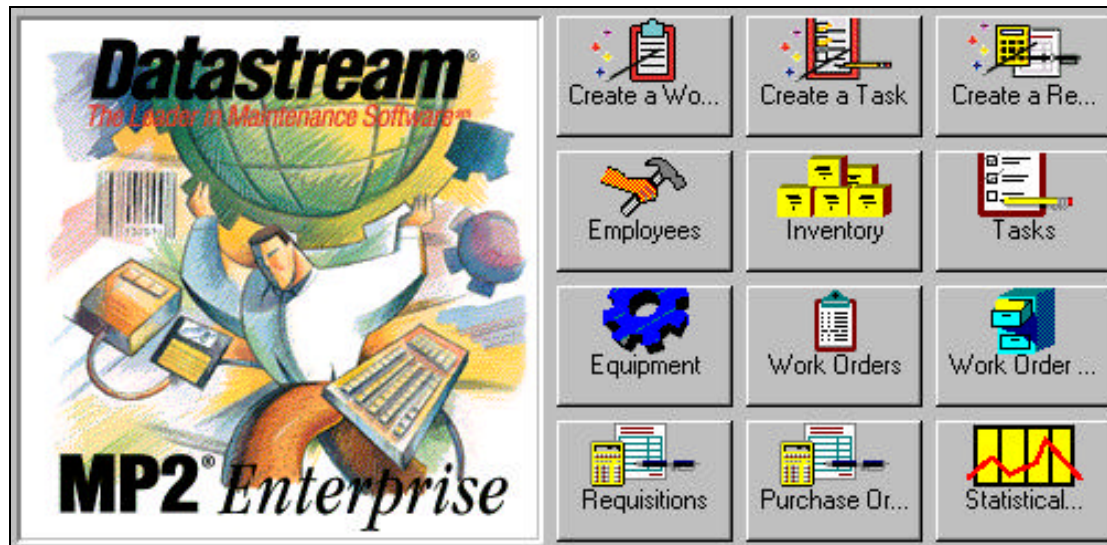
System Features

- Delphi-designed interface
- Native 32-bit processing on Windows 95/98 or Windows NT 4.0
- Microsoft SQL Server database
- Uninstall function
- User-defined Quick Access bar
- Access to Datastream's web page from MP2 help (Web browser, such as Internet Explorer or Netscape, required)
- Context-sensitive help for fields and forms
- Tutorial database
- Data Collection Forms within MP2 help
- Wizards for tasks, work orders, and requisitions
- Sort and filter for all forms
- Customizable fields
- Customizable reports and labels
- Capability to save form layouts

SECURITY

Security Setup

Set up security by creating records for your facility's sites, purchasing centers, and warehouses. Additionally, create user accounts for all MP2 users and roles for each defined security group.

Features

- **Sites, Purchasing Centers, Warehouses.** Create records for all your facility's sites, purchasing centers, and warehouses. Most MP2 records are specific to the site, purchasing center, or warehouse. For example, work order records are site-specific, purchase order records are purchasing center-specific, and inventory records are warehouse-specific.

- **User Accounts/Passwords.** Create user accounts and passwords. Users may access MP2 only with their user ID and password.

- **Security Roles.** Create security roles for the various groups at your facility and assign users to them.

- **Role Assignment Levels.** Assign users to more than one **Role Type** (Site, Purchasing Center, Warehouse). Within each role type, you may assign users to more than one **Role Type ID**. For example, you may assign employee CRS to sites 1 and 2, and to warehouses A and B.

Security Design

Design the level of security necessary for your facility so that only authorized personnel can start MP2 and access data. Additionally, customize MP2 menu titles and field names so that they are site-specific.
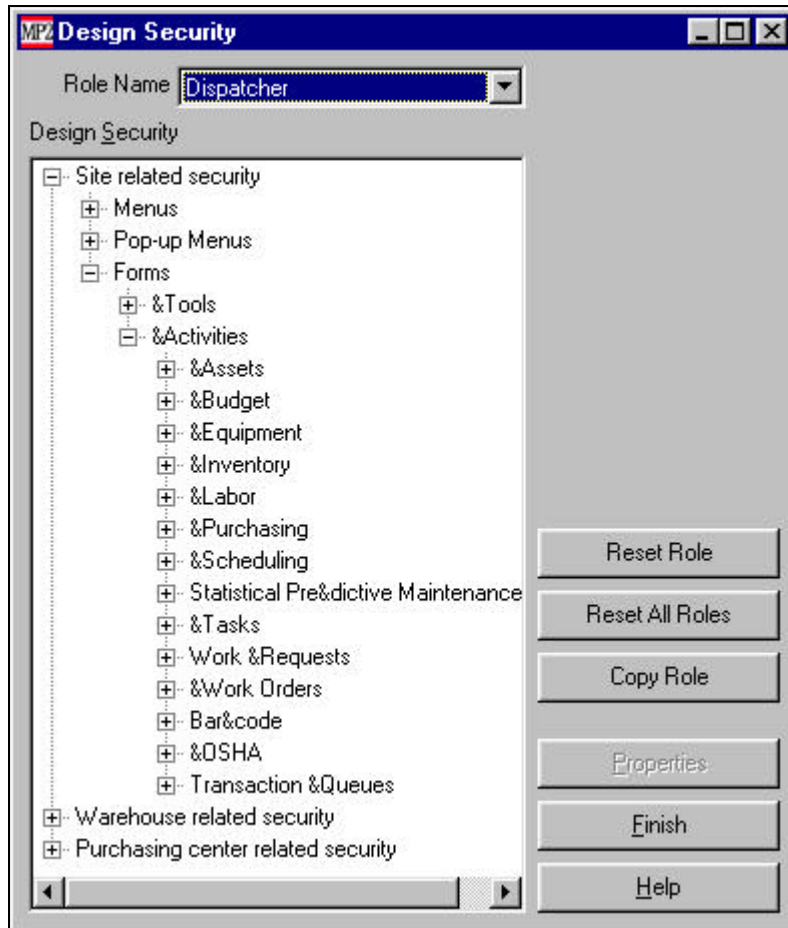
Features

- **Field Security.** Define field security for each security role. Allow roles read-write (edit) access or read-only access to fields. Additionally, you may hide fields altogether or specify that they are required.

- **Form Security.** Define form security for each security role. Allow roles read-only access to forms by prohibiting insertions, deletions, and updates.

- **Table Security.** Define table security for each security role. Prohibit roles from inserting, deleting, and updating records in certain tables. Additionally, you may hide tables altogether.

- **Menu Option Security.** Restrict access to menu options at any level.

- **Purchasing Security.** Further restrict purchasing security roles by permitting them read-only, non-cost, or unrestricted access to MP2 purchase orders and requisitions. Specify whether these roles can receive items, insert new line items into purchase orders with requisitions, or make changes to purchase order statuses.

- **Security Filters.** Define security filters to further restrict user access to certain records, and then assign security filters to user accounts.

- **Menu and Field Customization.** Modify menu titles and/or field names. MP2 changes the names of these fields on related forms and reports.

LABOR

Create employee records for all individuals involved in the maintenance process at your facility. Enter personal information, such as the address and phone number, as well as work-related information, such as shift, craft, and hire date. Hide private or sensitive information with MP2's security function.

Features

- **Training.** Enter training information, such as course descriptions, hours or CEUs earned, whether the employee earned a certificate and/or passed the course, and the cost of the course.

- **Wage Rates.** Enter multiple wage rates per employee, if necessary.

- **Timekeeping.** Specify exceptions to the normal working hours, such as vacation, sick time, etc.

VENDORS AND MANUFACTURERS

Create vendor records for all the companies from which you purchase items and services. Create manufacturer records for the companies that produce the items and equipment located at your site. Enter basic information, such as address and contact information for each vendor and manufacturer. Additionally, enter payment, shipping, and freight information.

Features

- **Taxes.** Enter multiple tax rates per tax code and assign a tax code to each vendor. Additionally, specify the tax type (Sales or Use) for each vendor.

- **Multiple Currency Support.** Enter the currency symbol and conversion factor for all of your international vendors.

- **Items Supplied.** List all items supplied by each vendor. Entering items on a vendor's record automatically enters the vendor on the item's record, reducing data entry.

- **Blanket POs.** If your vendors agree to sell items or services at a certain costs and designate a specific purchase order number for the items or services, set up blanket purchase orders for these vendors.

- **Ordering.** Specify the preferred ordering method for each vendor (Paper, Fax, EDI). If vendors prefer Electronic Data Interchange (EDI), enter the standard protocols.

- **Notes.** Enter information specific to each vendor or manufacturer. MP2 prints these notes on purchase orders.

- **Representative/Comments.** List the representatives for each vendor, including telephone number, fax number, and e-mail address. Enter additional comments concerning the vendor. MP2 does not print these comments on purchase orders.

- **Attachments.** Attach multimedia files, such as drawings or word processing documents, to vendor records.

- **User-defined Fields.** Enter additional information (up to ten fields) for each vendor, according to your needs.

INVENTORY

Create inventory records for all of your facility's maintenance parts. Enter basic information about parts, such as item numbers, stock locations (sites), quantities on hand, and unit costs. MP2's inventory reordering system reduces downtime resulting from emergency part ordering.

Features

- **Substitute Items.** List all items that employees may use as substitutes for the inventory item.

- **Vendors.** Specify all vendors that supply the inventory item. Entering vendors on an item's record automatically enters the item on the vendor's record, reducing data entry.

- **Specifications/Notes.** List item specifications or additional information concerning the inventory item.

- **Attachments.** Attach multimedia files, such as drawings or word processing documents, to inventory records.

- **User-defined Fields.** Enter additional information (up to ten fields) for each inventory item, according to your needs.

- **Multiple Warehouses.** Record the quantities and reorder points of each item for different stock rooms.

- **Reordering.** Enter the reorder quantity and specify whether to reorder items based on a reorder point or based on minimum and maximum values.

- **Usage.** For each warehouse, calculate and graph items used month to date and year to date.

- **Transaction History.** View all check out, return, adjust, move, and physical inventory transactions.

- **Costs.** Calculate costs for items according to the costing method you choose (FIFO, LIFO, Weighted Averaging).

Additional Features

- **Inventory Management.** Check out items, return items, adjust item quantities or prices, move inventory items within the same warehouse, or transfer items between warehouses.

- **Physical Inventory.** Enter physical inventory counts, and then MP2 updates inventory accordingly.

- **Item Labels.** Print labels for each inventory item to guard against checking out incorrect items.

- **Reserved Items.** View items reserved for maintenance work.

- **ABC and EOQ Analysis.** Determine the most efficient and cost-effective quantities to order.

EQUIPMENT

In MP2, *equipment* refers to any object on which you track maintenance. Equipment may be production related (presses, injection molders, etc.) or non-production related (air-handling units, vehicles, etc.). Equipment may also be any of the sub-assemblies, or components, of larger equipment.

The equipment number is the focal point for most MP2 functions. Enter basic equipment information, such as the equipment type, serial number, model number, manufacturer, and purchase date. Also, specify the exact location of the equipment by entering the site, location, and sub-locations. Specify whether equipment requires special handling, and MP2 notifies you when creating a work order for this equipment.

Features

- **Financial Data.** Enter the general ledger number, department, and cost center associated with each equipment as well as the original and replacement costs.

- **Spares.** Enter the spare parts associated with each equipment.

- **Safety Notes.** Enter or copy and paste safety information.

- **Meters.** Track meter readings by cumulative run time or usage cycles. Define the units of measure so that MP2 tracks the data that is most relevant to your operation.

- **Attachments.** Attach multimedia files, such as drawings or word processing documents, to equipment records.

- **Components.** View the hierarchical relationships between equipment and their components.

- **History.** View the work order history of each equipment.

- **User-defined Fields.** Enter additional information (up to ten fields) for each equipment, according to your needs.

Additional Features

- **Service Contracts.** Create service contract records for equipment under warranty. When equipment under warranty requires maintenance, MP2 notifies you that an extended service contract covers the equipment.

- **Nameplates.** Create nameplates to store additional information about equipment types.

- **Variables.** Create variables for equipment types to help track changes to field values over time.

- **Failure Analysis.** Record equipment failure for each equipment type, including the reasons for outage and solutions. Then, with this information, track equipment breakdown trends and troubleshoot problems.

PURCHASING

Purchasing Setup

Specify default quotation and requisition values for each site and default purchase order values for each purchasing center. Specify the next quotation, requisition, and purchase order numbers so that MP2 automatically enters the next number when you create quotations, requisitions, and purchase orders. Additionally, specify whether to enforce this function.

Features

Quotation and Requisition Setup

- **Single Source Letter.** Enter text to include on requisitions for your single source vendors.

- **Approval Levels.** Specify dollar amounts for four approval levels, and assign each MP2 user the appropriate level.

- **Generation Options.** Specify either to generate a different requisition for each vendor, to generate one requisition for all vendors, or to use the default requisition. Select whether to separate non-stock items from stock items.

Purchasing Setup

- **Addresses.** Specify the default confirm-to, ship-to, and invoice addresses to print on purchase orders.

- **Receive Options.** Specify a variety of receiving options, including whether to automatically fill the quantity to receive with the quantity ordered, whether to include tax and shipping charges, and whether to allow receiving of non-inventory items to stock.

- **Generation Options.** Specify whether to separate stock items from non-stock items when generating purchase orders and whether to automatically select purchase orders for printing so that you may batch print all purchase orders generated.

- **EDI (Electronic Data Interchange).** Enter the fax and data communications program names.

Quotations and Requisitions

Create quotations or requisitions for items that you must order. Create quotations to get availability and cost information from vendors. Then, choose a vendor, and create a requisition to get approval for the order.

Features

Quotations

- **Quotation Generation.** Automatically generate quotations for inventory items that have reached their reorder points.

- **Items.** Add to or modify the list of items for which you want quotes.

- **Vendors.** List all vendors from whom you want quotes.

- **Attachments.** Attach multimedia files, such as word processing documents, to quotation records.

- **Quotation Printing.** Print one quotation, print selected quotations, or print all quotations at one time.

- **Requisition Generation (from Quotations).** After receiving price quotes from vendors, choose a vendor, and then generate a requisition from the quotation.

Requisitions

- **Requisition Generation.** Automatically generate requisitions for inventory items that have reached their reorder points.

- **Purchase Order Generation.** Once approved, generate purchase orders from requisitions.

- **Items/Services.** Requisition items and/or services.

- **Requisition Approval Process.** Allow pre-approval for users when you require approval by more than one person.

- **Available Vendors.** Select, from the list of available vendors, the vendor(s) to which to send requisitions.

- **Receipts/Returns.** View all receipts and/or returns for the items or services requested.

- **Attachments.** Attach multimedia files, such as word processing documents, to requisition records.

- **Automatic Generation.** Specify the date and time for MP2 to generate requisitions.

Purchase Orders

Generate purchase orders from requisitions, or manually create purchase orders for inventory items, non-inventory items, and/or services and then send them to vendors for fulfillment. As vendors deliver items/services, receive them into MP2. After you receive all of the items/services, close the purchase order.

MP2 maintains a complete history of purchase order transactions, which you may view and edit. Create new purchase order history records for transactions that occurred before you purchased MP2 and include that data in reports and graphs.

Features

- **Costs.** View the total amount paid, total amount received, and the total cost of purchase orders.

- **Ordering/EDI.** Specify payment terms and enter shipping information. Enter Electronic Data Interchange (EDI) information to electronically transmit purchase orders.

- **Addresses.** Modify the vendor, ship to, and confirm to addresses for each purchase order, if necessary.

- **Taxes.** Specify whether the tax is incurred when you purchase the item/service (Sales) or when you use the item/service (Use). Additionally, specify whether to use the vendor's default tax rate or modify the rate for each line item.

- **Receipts.** Receive items to stock locations, work orders, equipment, cost centers, or employees. Receive services to work orders, equipment, cost centers, or employees. Additionally, you may order from one warehouse and receive to another.

- **Returns.** Return items from stock locations, work orders, equipment, cost centers, or employees. Return services from work orders, equipment, cost centers, or employees.

- **Attachments.** Attach multimedia files, such as EDI files or word processing documents, to purchase order records.

- **Item Status.** View the status of all items listed on requisitions and purchase orders.

- **Line Item Status Audit History.** Audit status changes to purchase order line items.

- **Purchase Order Revisions.** Track all revisions made to purchase orders.

- **Automatic Generation/Close.** Specify the date and time for MP2 to generate or close purchase orders.

TASKS

Create task records for your site's repetitive maintenance tasks, including the frequency with which you repeat each task. Schedule repetitive tasks by meter reading, date, or both. When equipment reaches the scheduled meter reading or when the current date equals the due date for the task, MP2 generates a work order.

Features

- **In Service/Out of Service.** Specify whether to perform the work when the equipment is in service or when it is out of service.

- **Multiple Equipment Tasks.** Specify whether to release multiple equipment tasks as separate work orders or as a single work order.

- **Equipment or Location.** Schedule maintenance work for equipment-related or location-related tasks.

- **Scheduling.** Schedule maintenance work by date (every 90 days), by meter (every 3000 miles), or both (whichever occurs first).

- **Details.** Enter craft information and the individual responsible for the task.

- **Parts.** Enter the parts needed to complete the task, and specify whether the parts are required for the task.

- **Shadowing.** Avoid generating duplicate work orders by shadowing longer frequency tasks with shorter frequency tasks.

- **Attachments.** Attach multimedia files, such as drawings or word processing documents, to task records. Specify for MP2 to print these files with work orders.

- **Unlimited Task Instructions.** Enter instructions, safety procedures, specialized maintenance information, repair procedures, etc., for each task. MP2 prints task instructions on work orders.

WORK REQUESTS

Work requests include two types of requests—call-in requests and on-site requests. Call-in requests reduce paperwork by enabling the property manager or maintenance manager to enter tenant requests as tenants phone them in. On-site requests reduce paperwork by enabling employees to enter their own maintenance requests.

Features

Call-in Requests

- **Tenants.** Create records for all tenants, including such basic information as addresses and telephone numbers as well as markup percentages for materials and labor.

- **Quick-Entry and Work Order Creation.** Quickly enter requests that tenants call in, and then immediately create work orders from the requests.

- **Request Scheduling.** Assign employees to call-in requests, and schedule the start and finish date for the work requested.

- **Work Order Printing (from Requests).** MP2 prints work orders in long or short form, based on work order setup. MP2 prints work orders after submitting requests.

- **Status and History.** View the status of all open requests, and view information for all requests closed to history.

On-site Requests

- **Equipment or Location Requests.** Create requests for equipment-related and/or location-related maintenance work.

- **Request Approval.** Approve requests as employees enter them or approve a group of requests at one time.

- **Work Order Creation and Request History.** MP2 creates work orders for all approved requests and saves the request information in history.

SCHEDULING

Specify the normal working days and exceptions to those days for your site and for each employee. Then, use the normal working days, exceptions, and equipment downtime to schedule maintenance work. Scheduling work and labor increases the efficiency of the maintenance operation.

View the current work order and task scheduling workload by day, week, or month; assign additional work for under-utilized days; and reduce the workload for over-utilized days.

Features

- **Site Scheduling.** Specify the days that your site normally operates each week and the days it does not operate. MP2 does not generate work orders for days that the facility does not operate; instead, MP2 generates those work orders on the next working day.

- **Employee Scheduling.** Schedule the daily available hours for each employee. MP2 computes available labor hours for tasks with this information. Record employees' extra work hours or missed work hours. Specify scheduling exceptions for employees that span multiple days without entering the exception for each individual day.

- **Production Scheduling.** Record equipment downtime information for reference when scheduling maintenance work.

- **Work Order Scheduling.** View all due tasks and work orders for a certain day, week, or month. View all backlogged and unscheduled work orders and all unapproved on-site requests. View work orders for a certain craft or employee.

- **Drag-and-Drop Scheduling.** Re-schedule backlogged work orders, schedule unscheduled work orders, and approve and create work orders for unapproved on-site requests by dragging and dropping them onto the calendar.

- **Employee and Craft Utilization.** Hover the cursor over a calendar day to view the utilization percentage.

- **Drag-and-Drop Printing.** Quickly print a scheduled work order by dragging and dropping it onto the printer button.

WORK ORDERS

Generate work orders for scheduled maintenance work, or manually create work orders for emergency maintenance or repair. Print work orders for reference when performing the work. After completing the work, update parts and labor information, enter meter information, add comments, and then close the work order. MP2 transfers the information to work order history and updates all relevant equipment and task records.

Features

- **Work Order Generation.** Generate work orders for all multiple equipment tasks, all single equipment tasks, all "Ready" or "Hold" work orders, all location-based tasks, all equipment-based tasks, and/or all equipment with readings outside the SPM limits. Additionally, generate work orders for specific tasks, equipment, or locations.

- **Equipment or Location.** Create work orders for equipment-related and/or location-related maintenance work.

- **Attachments.** Attach multimedia files, such as drawings or word processing documents, to work order records. Specify for MP2 to print these files with work orders.

- **Automatic Work Order Projection.** Specify the date and time for work order projection.

- **Automatic Work Order Generation.** Specify the date and time for MP2 to generate work orders.

- **Automatic Work Order Close.** Specify the date and time for MP2 to close work orders.

- **Work Order History.** View and edit work order history as necessary. Also, create new work orders by copying work order history.

- **Export Work Orders.** Export information from current work orders to Microsoft Project. View the information within Microsoft Project, and print the schedule to distribute to employees, highlighting their individual tasks. As tasks progress, update MP2, and then re-export the data.

STATISTICAL PREDICTIVE MAINTENANCE

Move beyond preventive maintenance by setting up a *predictive* maintenance program in MP2. MP2's statistical predictive maintenance (SPM) module identifies equipment readings outside the control limits, alerting you to schedule maintenance before the equipment fails. Set controls according to either manufacturer's specifications or the equipment's historical performance.

For example, create a SPM record for an injection molder and then monitor its temperature readings. Enter the minimum and maximum possible readings for the injection molder, obtained from the manufacturer's specifications, and then enter each equipment meter reading. Periodically generate reports and graphs to view readings that fall outside the specified range.

Features

- **Multiple Measurement Standards.** Determine potential equipment failure with manufacturer's specifications, means, standard deviations, and/or consecutive points.

- **Multiple Readings per Equipment.** Enter multiple readings for each equipment record, if necessary.

- **Numeric or Text Meter Readings.** Record a numeric or text value for meter readings. MP2 tracks the number of consecutive occurrences of each text value.

- **Recalculation of Means/Standard Deviations.** Recalculate the means and standard deviations for all SPM records at one time.

- **Work Order Generation.** Automatically generate work orders for equipment with readings outside the specified statistical predictive maintenance (SPM) limits.

REPORTS AND GRAPHS

Analyze your data with MP2's reports and graphs. View reports and graphs on the screen, print them, export them to spreadsheet files, or e-mail them. Create custom reports and graphs by changing the order of fields, hiding fields, selecting page setup and font options, and sorting and filtering records. Save customized reports and graphs for future use.
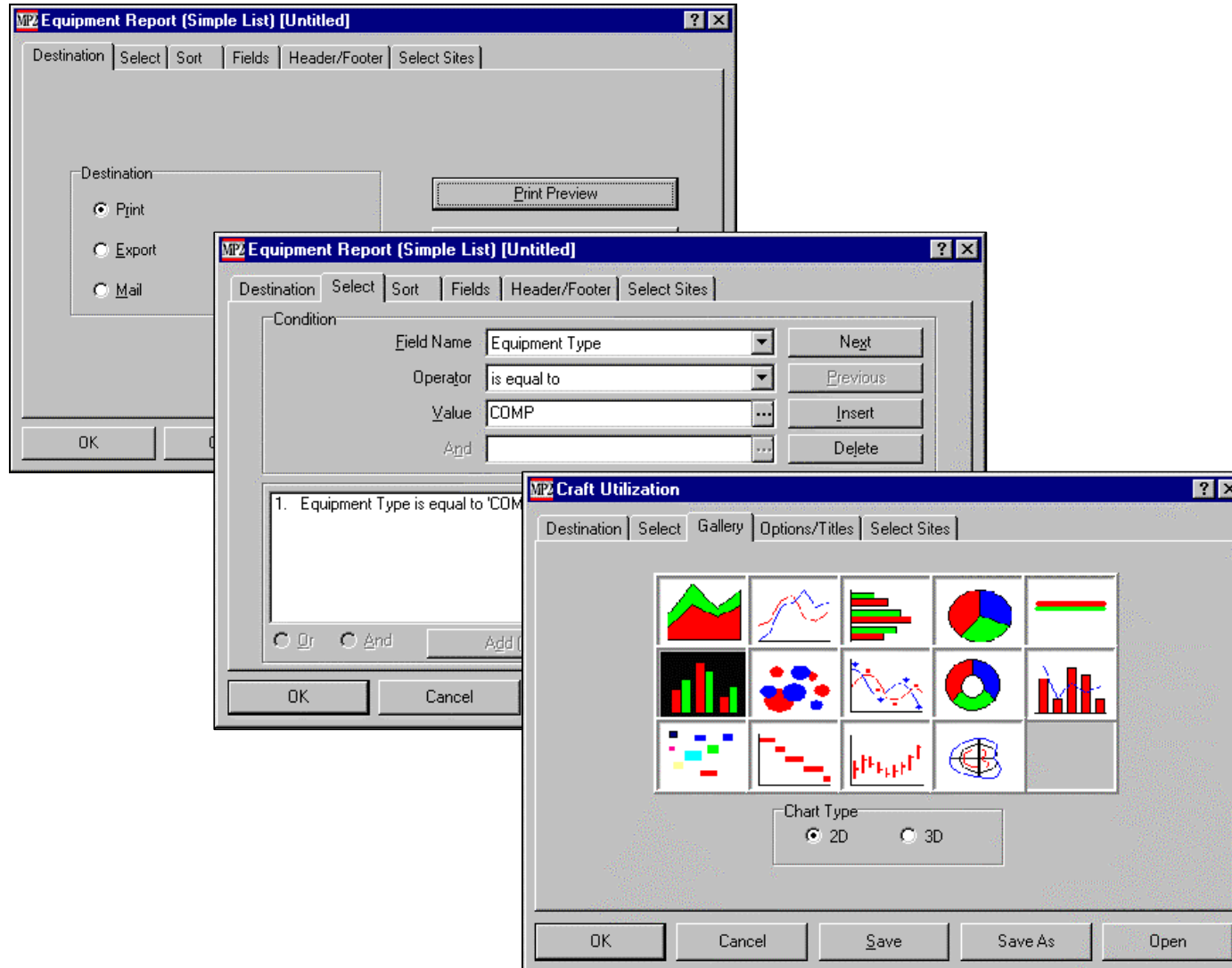
Features

Reports and Graphs

- **Output Options.** Print, export, or send reports and graphs via e-mail.
- **Preview.** Preview data on-screen in report/graph format or in tabular format.
- **Record Selection.** Select records to include in the report or graph with query operators (*is equal to*, *does not contain*, *is greater than*, etc.).
- **Font Modification.** Select the font with which to print reports and graphs.
- **Titles.** Change the default report/graph titles and/or include footers on reports.
- **Save Custom Settings.** Save record selections, field selections, sort criteria, and format options for future use. Save the report/graph by a specified name, and then attach the saved file to the Quick Access bar for easy access.

Reports

- **Sort.** Sort reports by certain fields in either ascending or descending order. The sort may include up to three fields.
- **Field Selection.** Choose the fields to include on reports.
- **Re-size Fields.** Change the width of fields on tabular reports.

Graphs

- **2D/3D.** Select to display either a 2-dimensional or 3-dimensional graph.
- **Gallery.** Choose from a variety of types of graphs (bar, line, pie, etc.).

LIST OF REPORTS

Assets

Report Name	Description
Assets	Detailed asset information, including the asset type, type description, location, and quantity for each asset.
Locations	Asset locations and descriptions.
Types	Asset types and descriptions.
Numbers	Asset numbers, types, and locations.
Counting Sheets	Worksheet on which to record asset counts.
Adjustments	Quantities adjusted when posting physical asset counts.

Equipment

Report Name	Description
Equipment Report (Simple List)	Basic equipment information, including the description, serial number, equipment type, and location for each equipment.
Equipment Report (Full List)	Detailed equipment information, including the manufacturer, vendor, spare parts, components, task information, safety notes, user-defined fields, and nameplate information for each equipment.
Locations	Sub-locations, cost center, department, and general ledger number for each location.
Equipment Drawings	Equipment with attached multimedia files, including the path, file name, and description of each multimedia file, and whether you selected to attach this file to work orders.
Component Report	Equipment families in outline form, including components and component descriptions for each equipment.
Component Costs	Cost information for each equipment family, grouped by the parent equipment record. This report includes the labor hours, labor cost, material cost, and total cost for each equipment and component as well as grand totals for each parent equipment record.
Spare Codes Master List	Spare parts information, grouped by spare-parts code. This report includes the description, quantity, and site for each item.
Spare Parts List	Spare parts information, grouped by equipment. This report includes the spare-parts code description, item number, item description, quantity, and site for each spare-parts code.
Nameplates	Nameplate information for each equipment for the selected equipment type.
Equipment Variables	Variable information for each equipment for the selected equipment type.
Work Order Cost Summary	Cost information for equipment on all open and closed work orders, grouped by work order type. This report includes the number of work orders, employee labor hours, material cost, employee labor cost, vendor cost, and total cost for each equipment as well as grand totals for each value listed above.
Service Contract List	Service contract information, grouped by service code. This report includes the service contract number, vendor ID, contract expiration date, total payment, last payment date, next due date, and the total amount paid for each equipment.
Equipment Meters	Basic meter information, including the meter name, average meter units per day, current meter reading, and unit of measure for each equipment.
Meter History	Equipment meter reading history, grouped by equipment. This report includes the date and time entered, meter reading value, and unit of measure for each meter name.

Equipment (continued)

Report Name	Description
Maintenance Cost per Meter Unit	Labor, material, and total costs per meter name and per meter unit for each equipment.
Asset Costs	Costs for equipment assets, including the asset number, replacement cost, original cost, material cost, labor cost, current value, and annual depreciation for each equipment.
Equipment Types	Equipment types and descriptions.
Departments	Departments and descriptions.
Cost Centers	Cost centers and descriptions.
General Ledgers	General ledger numbers and descriptions.
Activity on Equipment Requiring Special Handling	History of all work orders created for equipment requiring special handling.
Failure Summary	Basic equipment failure information, grouped by equipment type. This report includes the RFO code, solution, and number of failures for each equipment.
Mean Time between Failure	Grouped by equipment type, this report includes the RFO code, solution, number of work orders, mean time between failure (MTBF), mean time to repair (MTTR), days from last failure, and days to repair for each equipment. MTBF is calculated from non-task work orders and MTTR is calculated from work orders with associated tasks or work orders with a scheduled start date.
Failure-Solution Cost	Equipment repair cost information, grouped by equipment type. This report includes the employee labor cost, contractor labor cost, material cost, and total cost for each equipment.
Solutions	List of solutions for equipment failure, grouped by equipment type.
RFF Codes	List of Reason For Outage codes and their descriptions.
RFF Codes	List of Reason For Failure codes and their descriptions.

Inventory

Report Name	Description
Inventory Standard	Basic inventory item information, including the type, manufacturer, average unit cost, unit of measure, reorder quantity, reorder method, location, and quantity on hand for each item.
Vendors	Basic vendor information, including the vendor type (Supplier, Contractor, or OEM/Mfg) and notes for each vendor.
Manufacturers	Basic manufacturer information, including the type and notes for each manufacturer.
Stock Level Summary	Basic stock information, grouped by site. This report includes the type, account code, description, quantity on hand, average unit cost, and total cost for each item.

Inventory (continued)

Report Name	Description
Stock Level Summary with Cumulative Totals	Stock information and cumulative totals, grouped by site. This report includes the last received date, quantity on hand, and total cost for each item.
Stock Level Detail	Detailed stock information, including the type, account code, average unit cost, site, location, quantity on hand, and total cost for each item.
Min/Max	Min/Max reordering information, including the average unit cost, site, quantity on hand, minimum stock level, maximum stock level, quantity on order, reorder point, reorder quantity, and total cost for each item.
Physical Counting Sheets	Worksheet on which to record inventory counts.
In-transit Receiving Worksheet	Worksheet on which to record the actual quantities received.
Physical Inventory Adjustment	Quantities adjusted when posting physical inventory counts. This report lists the old and new quantities for each modified record.
Item Reserved by Work Order	Inventory items reserved for work orders, including the site, work order number, and quantity reserved for each item.
Inventory Type	Inventory types and descriptions.
Item Labels	Labels for inventory items.
Suppliers for Each Item	Vendor ID, vendor name, unit cost, vendor's item number, minimum order quantity, unit of purchase, lead time, and contract information for each item.
Items Supplied by Each Vendor	Grouped by vendor, this report includes the unit cost, quantity per unit of purchase, minimum order quantity, blanket purchase order number, vendor's item number, unit of purchase, lead time, and contract information for each item.
Item Drawings	Inventory items with attached multimedia files, including the path, file name, and description of each multimedia file.
Payment Terms	Payment terms and descriptions.
Status	Status information, including the quantity on hand, adjusted unit cost, quantity reserved, quantity on order, reorder method, reorder quantity, and value on hand for each item.
Units of Measure and Purchase	Units and descriptions.
Stock Movement	Inventory transactions, grouped by item number. This report includes the site, location, quantity moved, unit cost, reason for movement, transaction type, date and time of the transaction, issue to and charge to information, and extended cost.
Item Usage	Quantity on hand, unit cost, quantity on order, quantity and value for the previous year, quantity and value for the current year-to-date, and value on hand for each item.
Quantity Received vs. Quantity Issued	Current quantities, including the quantity on hand, quantity received per unit of purchase, quantity issued, and quantity adjusted for each item.
N - Usage	Inventory items issued (used) a specified number of times (N) or less during a certain period of time, including the quantity on hand, quantity issued, total issue cost, and total value on hand.
Parts Where-Used	Equipment and/or locations for which employees used inventory items and the maximum number of items issued in a single checkout.
Forecasting	Forecast future inventory usage by viewing the monthly usage history for a one-year period.

LIST OF REPORTS (CONTINUED)

Labor

Report Name	Description
Employees	Employee information, including craft, class, shift, hire date, and raise date for each employee.
Employee Training	Training information, grouped by employee. This report includes the course description, the purpose of the training, the hours and/or units earned, the cost, and whether the employee completed the course.
Employee Attendance	Attendance history, grouped by employee/attendance code, including sick, vacation, overtime, and other exceptions to the normal working hours.
Attendance Codes	Attendance codes and descriptions.
Craft Codes	Craft codes and descriptions.
Employee Productivity	Total estimated hours, total hours worked, and productivity percentage for each employee.
Craft Productivity	Total estimated hours, total hours worked, and productivity percentage for each craft.

Purchasing

Report Name	Description
Purchasing Item Journal	Ordering information, grouped by item. This report includes the number of inventory items to be ordered (based on the current stock level and the number of items reserved by work orders), unit cost, unit of purchase, total cost, and vendor information for each item.
Blanket PO List	Blanket purchase order information, grouped by vendor. This report includes the blanket purchase order number, description, release number, and item information for each vendor.
Purchasing Item List	Items currently on requisitions or purchase orders, including the quantity requested, unit cost, unit of purchase, total cost, purchase order number, release number, requisition number, and vendor information for each item.
Item Purchasing History	Purchasing history information, grouped by item, purchase order number, and release number. This report includes the purchase order status, item type, requisition number, quantity requested, and all receiving information.
Requisition Status List	Status and approval information for each requisition.
Purchase Order Status	Status information, grouped by purchase order number. This report includes the quantity requested, quantity received, unit cost, backorder quantity, and extended cost for each item.
Line Item Status Audit History	History of changes to item status, including the date/time the change occurred, user ID of the individual who made the change, type of change, item number, requisition number, purchase order number, and item status.
Purchasing Commitment	Total costs committed on purchasing orders and requisitions for a certain period of time.
Purchasing History Cost	Cost information for closed purchase orders, grouped by purchase order number, release number, and close date. This report includes the account number, quantity received, and total cost for each item.
Purchase Order History	Request and receiving totals for closed purchase orders, grouped by purchase order number, release number, and close date. This report includes the quantity requested, total quantity received, unit cost, total cost of requested quantities, and total cost of received quantities for each item.

Purchasing (continued)

Report Name	Description
Number of Receipts	Receiving information for closed purchase orders, including the inventory type, date first received, date last received, total quantity received, number of receipts, average quantity received per month, and average receipts per month for each item.
Detailed Receipts	Detailed receiving information grouped by purchase order number and release number. This report includes the date and time received, Issue To information, transaction type, Charge To information, quantity received, average unit cost, stock locations, work order locations, and the user ID of the individual creating the transaction for each line item.
Receiver Reprint	Reprint of selected receivers.
Receiver Summary	Summary of generated receivers, grouped by receiver number. This report includes the vendor information, purchase order number, release number, date received, quantity received, adjusted unit cost, and total cost for each item.
Return Status	Detailed return information, including the purchase order number, release number, sequence number, receipt number, close date, quantity received, quantity returned, date returned, unit cost, invoice number, transaction date/time, and Return From information for each line item returned.
Return Summary	Summary of return information, grouped by receiver number. This report includes the purchase order number, release number, quantity returned, adjusted unit cost, return total cost, date returned, unit of purchase, and vendor information for each line item returned.
Return Reprint	Reprint of selected returns.
Number of Returns	Basic return information for closed purchase orders, including the inventory type, unit of measure, date of the first return, date of the last return, quantity returned, number of returns, average quantity returned per month, and average returns per month for each item.
Vendor Performance	Performance information, including the number of orders, average number of days late, and average number of days early for each vendor.
Details	Detailed item purchasing history summary, including the date received, quantity received, total cost, vendor information, account code, account description, and inventory type for each item.
Account Code Summary	Total received costs for each account code.
Inventory Type Summary	Total received costs for each inventory type.
Vendor Summary	Total received cost for each vendor.
Purchase Order Revisions	Revisions to purchase orders in purchase order format.

Scheduling

Report Name	Description
Site Scheduling Exceptions	Exceptions to the normal facility working days for your site.
Employee Schedule	Daily, weekly, or monthly schedule for the employee. This report includes the craft, shift, and utilization percentage for the employee and the location and estimated hours for each equipment.

LIST OF REPORTS (CONTINUED)

Scheduling (continued)

Report Name	Description
Employee Scheduling Exceptions	Exceptions to the employee's normal working hours, including the date, attendance code, reduced hours, and increased hours for each exception.
Daily Craft Schedule	Daily schedule for a specific date or range of dates. Report up to three months of daily schedules. This report includes available craft hours, scheduled craft hours, utilization percentage, and excess or shortage hours for each craft.
Weekly Craft Schedule	Weekly schedule for a specific range of dates. This report includes available craft hours, scheduled craft hours, utilization percentage, excess or shortage hours, weekly totals, and grand totals for each craft.
Production Schedule	Downtime information, including the date and time you will take the equipment down, the date and time you will bring equipment back up, and the reason for outage.

Security

Report Name	Description
Filters	Filter name, name of the table to which the filter is applied, and the description of the filter.
Roles	Role name, name of the table/menu to which the role is applied, and the role attribute.
Role Assignments	Role assignments, including user ID, role type, role type ID, role name, request approval level, transfer access, and default home fields.

Statistical Predictive Maintenance

Report Name	Description
Out of Limit Variables	Grouped by equipment, variables that currently exceed or fall below the specified limit.
Variable Description	Variable descriptions, including the measurement, description, unit, mean, and standard deviation for each equipment.
Variable Readings	Variable readings, grouped by equipment. This report includes the date, time, numeric and/or text reading, and work order number for each reading.

Tasks

Report Name	Description
Task Report (Simple List)	Basic task information, grouped by task. This report includes the location, next due date, last performed date, task duration, and task frequency for each equipment.
Task Report (Full List)	Detailed task information, including craft information, equipment/location information, required parts, and task instructions.
Task Required Parts List	Required parts, including the item number, site, item description, quantity, and unit of measure for each task.
Task Instruction List	Task instructions, including the date last edited and instructions for each instruction code.
Task Instructions (One per Page)	Task instructions, including the date last edited and instructions for each instruction code (one per page).

Tasks (continued)

Report Name	Description
Task Shadowing	Shadowing information, including the equipment number, equipment description, shadowed task, and shadowed task description for each task.
Tasks Requiring Downtime	Tasks that require equipment to be down when employees perform the task. This report includes the equipment number, equipment description, operating status, next due date, and downtime duration for each task.
Equipment Downtime	Estimated downtime for equipment on which you perform maintenance.

Work Requests

Report Name	Description
Tenant	Basic tenant information, including the exact location for maintenance work and contact information for each tenant.
Tenant Summary	Cost summary, grouped by tenant. This report includes the number of requests, labor hours, employee labor cost, contract labor cost, material cost, and total cost for each requested service.
Tenant Detail	Cost summary, grouped by tenant. This report includes the priority, labor hours, employee labor cost, contract labor cost, material cost, and total cost for each requested service.
Requested Service Summary	Cost summary, grouped by requested service. This report includes the priority, number of requests, labor hours, employee labor cost, contract labor cost, material cost, and total.
Call-in Requests	Work orders submitted as call-in requests.
Call-in Request (Simple List)	Submitted call-in requests, including the requested service, request date/time, requester (tenant), authorized caller, location, priority, and status of each work order.
Completed Call-in Requests	Work orders submitted as call-in requests and closed to history.
Call-in Request Average Response Time	Average response time, grouped by tenant/requested service. This report includes the priority, response time in hours and number of calls for each tenant/requested service.
Call-in Request Time Detail	Response and process times, grouped by tenant. This report includes the requested service, description, response time, process time, and total time for each closed request.
Call-in Request Invoice	Invoice for each call-in request, including the starting date/time, completion date/time, comments, labor information, and parts information for each request.
Call-in Request Labor	Craft and labor information for each call-in request, including costs.
Call-in Request Parts	Parts information, grouped by tenant. This report includes the requested service, item number, item description, quantity, average unit cost, and total cost for each request.
Call-in Request Comments	Comments for each call-in request.
Craft Summary for Call-in Requests	Summary of call-in request information, grouped by craft. This report includes the number of requests, labor hours, and labor cost for each requested service.
Location Summary for Call-in Requests	Cost summary, grouped by location, sub-location 1, sub-location 2, or sub-location 3. This report includes the number of requests, labor hours, employee labor cost, contract labor cost, material cost, and total cost for each requested service.

Work Requests (continued)

Report Name	Description
Call-in Request Location Detail	Cost summary, grouped by location, sub-location 1, sub-location 2, or sub-location 3. This report includes the priority, labor hours, employee labor cost, contract labor cost, material cost, and total cost for each requested service.
On-site Requests	Basic on-site request information, grouped by request number/request date. This report includes the approve date/time, individual requesting the work, individual assigned the work, starting date, task description, equipment number, equipment description, location, and comments.

Work Orders

Report Name	Description
Work Order Summary	Basic work order information, including the task number, task description, work order type, status, scheduled start date, scheduled finish date, priority, equipment number, craft, and estimated labor hours for each work order (open or closed).
Work Order Summary Comprehensive	Detailed information for current work orders, including the task number, scheduling information, equipment information, labor information, parts, and comments for each work order.
Work Order Summary Comprehensive (with cost)	Detailed information for current work orders, including the task number, scheduling information, cost information, equipment information, labor information, parts, and comments for each work order.
Craft Summary	Grouped by craft, the number of requests, total labor hours, and labor cost for each task.
Work Order Parts Pick List	List of inventory items required for work orders.
Work Order History Comprehensive	Detailed information for closed work orders, including the task number, scheduling information, equipment information, labor information, parts, and comments for each work order.
Work Order History Comprehensive (with cost)	Detailed information for closed work orders, including the task number, scheduling information, cost information, equipment information, labor information, parts, and comments for each work order.
Work Order History Weekly	Number of closed work orders for each week of the specified month and year for each work order type.
Mean Time between Work Orders	Failure information, grouped by equipment and work order type. This report includes the number of work orders, mean time between failure, mean time to repair, failure date, days from last failure, repair date, and days to repair.
Work Order Inventory Usage (6 Months)	Quantities and costs of inventory items used for maintenance work for six months beginning with the specified month.
Work Order Response Time with Equipment	Response times for all closed work orders, including close date, task information, response time (days, hours, minutes), and equipment information for each work order.
Work Order Response Time with Comments	Response times for all closed work orders, including close date, task information, response time (days, hours, minutes), equipment information, and comments for each work order.
Work Orders Performed by Warranty	Work orders that were completed under warranty. This report includes the equipment number, work order number, comments, labor information, required parts, labor costs, and material costs.
Work Order Backlog	Summary of labor and equipment information for overdue tasks and work orders. This report includes the estimated hours, crew size, hours worked, hours remaining, starting date, equipment, and location for each task.
Craft Backlog	Compares the estimated number of crew hours with the actual number of hours already logged for each task/work order.

Work Orders (continued)

Report Name	Description
Work Order Aging	Number of work orders per work order type that are 1-10, 11-30, 31-60, 61-90, or over 90 days overdue.
Work Order Statistics	Statistical backlog information, including the number of work orders (1) backlogged at the specified starting date, (2) scheduled to begin within the date range, (3) backlogged at the specified starting date, but completed within the date range, and (4) scheduled to begin within the date range and completed within the date range.
Slack Time	Number of hours for a specified time period that each employee did not work.
Work Order Projection	Projected estimates for work orders, grouped by week, month, or summarized (no grouping by time span).
Work Order Types	Work order types and descriptions.
Expense Classes	Expense classes and descriptions.
Projects	Project information, including project tasks, starting and ending dates, work order type, site, and task name.
Invoices	Invoice for current and closed call-in requests and closed work orders, including the starting date/time, completion date/time, comments, labor information, and parts information for each request.
Work Order On-Time Delivery by Craft (Summary)	Summary of on-time work order statistics by craft, including craft, number of scheduled work orders, number of work orders delivered on time, percentage of work orders delivered on time.
Work Order On-Time Delivery by Craft (Details)	Detailed report of on-time work order statistics by craft, including craft, work order number, site, task description, scheduled start date, scheduled finish date, completion date, and status.
Work Order On-Time Delivery by Craft (Complete)	Complete report of on-time work order statistics by craft.
Work Order On-Time Delivery by Employee (Summary)	Summary of on-time work order statistics by employee, including employee, number of scheduled work orders, number of work orders delivered on time, and percentage of work orders delivered on time.
Work Order On-Time Delivery by Employee (Details)	Detailed report of on-time work order statistics by employee, including employee, work order number, site, task description, scheduled start and finish dates, completion date, and status.
Work Order On-Time Delivery by Employee (Complete)	Complete report of on-time work order statistics by employee.

LIST OF GRAPHS

Scheduling

Graph Name	Description
Craft Utilization	Average utilization percentage for each craft during a specified date range.
Employee Utilization	Average utilization percentage for each employee during a specified date range.

Statistical Predictive Maintenance

Graph Name	Description
Numeric Information	Readings taken from equipment and any additional analysis information that has been established.
Text Information	Occurrences of text values for the equipment. For instance, if you are using low, medium, and high for data values, this graph displays the number of occurrences found of low, medium, or high values.

Work Requests

Graph Name	Description
Total Cost	Total costs of works requests. Select to group this graph by tenant, location, sub-location 1, sub-location 2, sub-location 3, requested service, month completed, priority, or completion date.
Material Cost	Material costs (cost of inventory parts) of work requests. Select to group this graph by tenant, location, sub-location 1, sub-location 2, sub-location 3, requested service, month completed, priority, or completion date.
Labor Cost	Labor costs of work requests. Select to group this graph by tenant, location, sub-location 1, sub-location 2, sub-location 3, requested service, month completed, priority, or completion date.
Labor Hours	Labor hours used in work requests. Select to group this graph by tenant, location, sub-location 1, sub-location 2, sub-location 3, requested service, month completed, priority, or completion date.
Number of Call-in Requests	Number of call-in requests. Select to group this graph by tenant, location, sub-location 1, sub-location 2, sub-location 3, requested service, month completed, priority, or completion date.
Response Time	Response times of work requests. MP2 calculates response time by subtracting the time an employee receives the request from the time it is first entered into MP2. Select to group this graph by tenant, location, sub-location 1, sub-location 2, sub-location 3, requested service, month completed, priority, or completion date.

Work Orders

Graph Name	Description
Projection	Projected number of craft labor hours required to complete work orders, grouped by week and month or summarized (no grouping by time span).
Craft Backlog	Compares the estimated number of craft labor hours required to complete overdue tasks or work orders to the actual number of hours already logged for these tasks and work orders.

Work Order Analysis and Inventory Analysis

| Graph Name	Description
Work Order Analysis	Analysis of work order data according to four analysis measures: Pareto, Time Series, Histogram, and Categorical.
Inventory Analysis	Analysis of inventory data according to four analysis measures: Pareto, Time Series, Histogram, and Categorical.

Equipment

Graph Name	Description
Failure Summary	Number of failures by Equipment No., Equipment Type, or Reason for Outage.
Mean Time between Failure	The mean (average time) between equipment failures, which is calculated from non-task work orders and the mean time to repair, which is calculated from work orders with associated tasks or work orders with a scheduled start date.
Failure Cost	Total cost of failure by Equipment No., Equipment Type, or Reason for Outage.

UTILITIES

Control administrative functions using MP2 utilities. Setup audit trails for MP2 actions, export and import data, schedule MP2 processes to run automatically, and view and manage system functions.
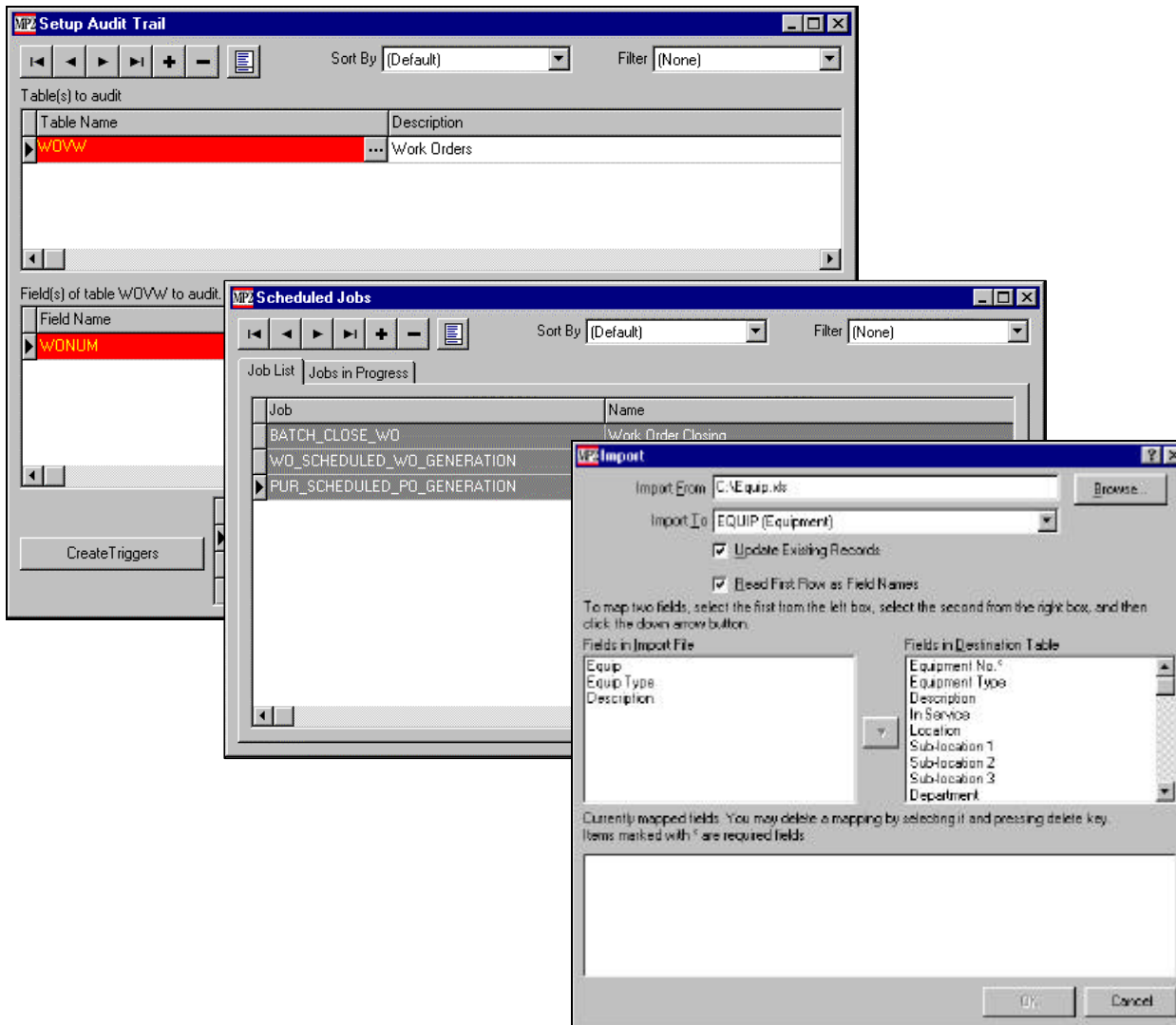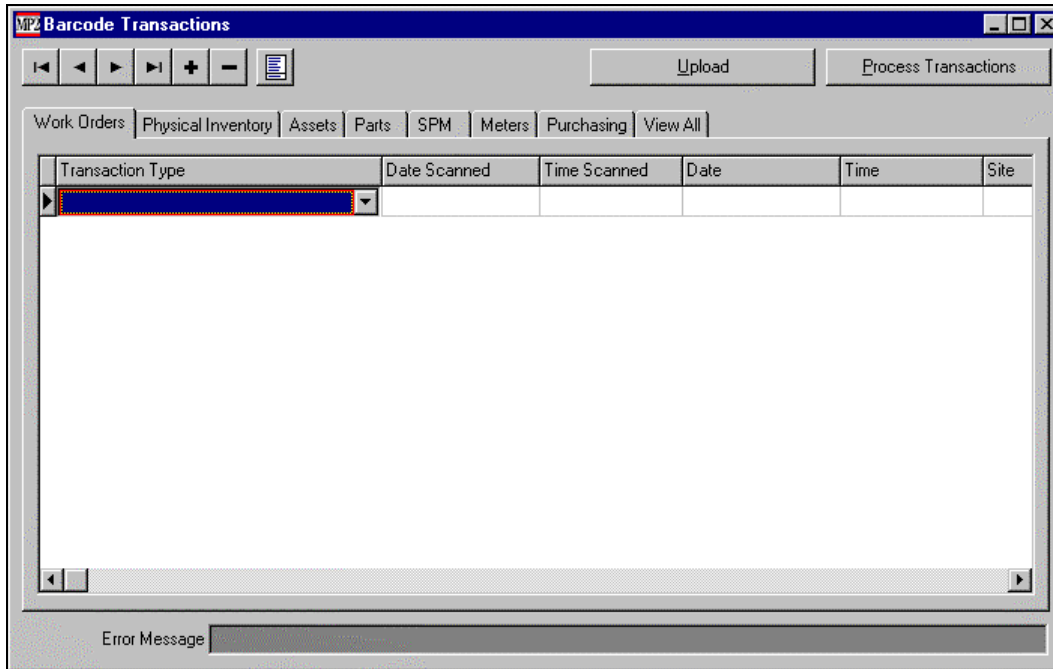

Features

- **Audit Trails.** Trace user actions in MP2 to verify compliance with government regulations.

- **Job Scheduling.** Schedule common, but often time consuming, MP2 processes to run automatically at specified time intervals, such as every evening.

- **Data Export.** Export data from MP2 into a variety of database formats, including Excel, Lotus, Quattro, Symphony, ASCII, Dbase and Microsoft Access.

- **Data Import.** Import data for equipment, inventory, inventory site, and stock records from a variety of database formats, including Excel, Lotus, Symphony, ASCII, and Dbase.

- **Sample Database.** Load the sample database for use in system testing and system training.

BARCODE

Identify almost any item with a barcode, including assets and employees. With a barcode scanner, you may accurately and reliably collect information and transfer it to MP2.
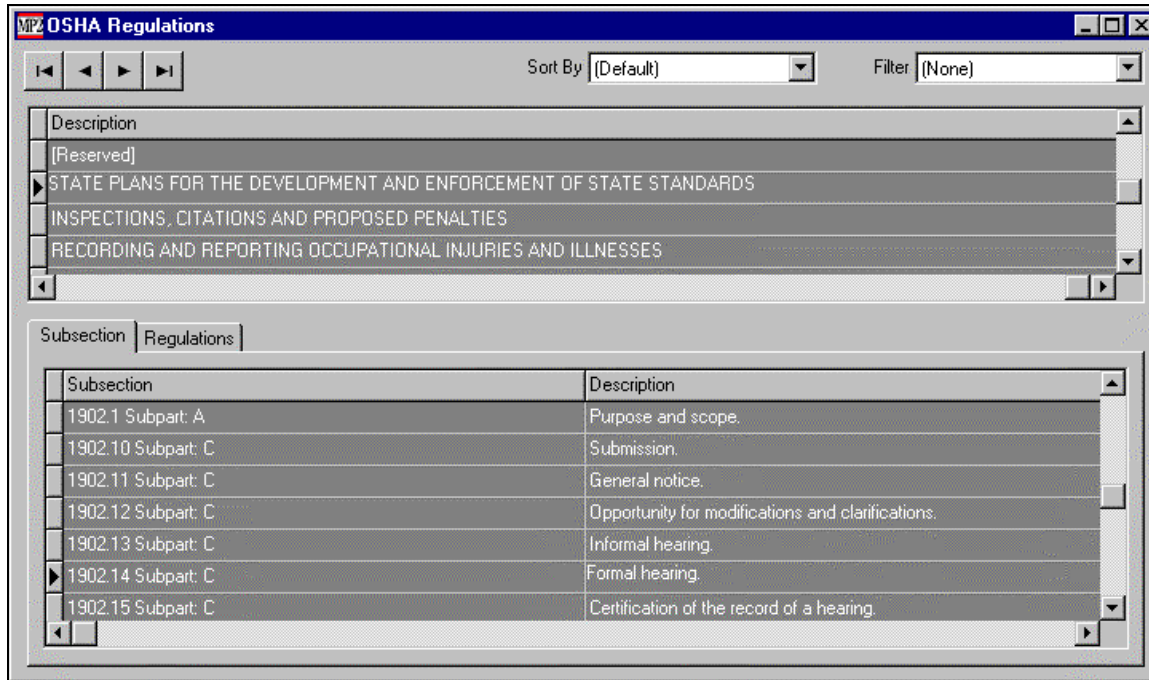

Features

- **Data Transfer.** Transfer barcode information directly to MP2.

- **Inventory Management and Checkout.** Issue parts efficiently and accurately, cutting down on parts shortages and increasing the overall productivity of the maintenance department.

- **Scanners.** Reduce data entry time and improve accuracy for many procedures.

OSHA REGULATIONS

View the Occupational Safety and Health Administration (OSHA) regulations or copy sections of the regulations that affect your organization and paste them into equipment, task, or work order records as reminders of regulatory requirements.

Features

- **Safety Procedures.** Copy OSHA regulations and paste them as safety notes on equipment records or as task instructions. MP2 prints the text on work orders.

- **Compliance.** Record OSHA compliance in Work Order History.

PAGER LINK

PagerLink supplements MP2's on-site request function by enabling you to page the responsible employees when you create, approve, or delete on-site requests. Thus, maintenance employees receive immediate notification of important work requests, including details about the work required, and they are able to give real-time response to the requests.

Features

- **When to Notify.** Specify whether to page individuals upon request creation, approval, and/or deletion.

- **Whom to Notify.** Specify whether to page the person to whom you assign the request or the person responsible for the equipment.

- **Page Information.** Specify the number of times to page the employee and the interval between pages.

- **Escalation.** Page the supervisor if employees do not respond within the specified amount of time.

- **Page Message.** Create the page message by selecting the fields to include.

REQUIREMENTS AND RECOMMENDATIONS

This table outlines the hardware and operating system requirements and recommendations for MP2's optimum speed and performance.

Workstation

Operating System	Windows 95/98 or Windows NT 4.0 or higher
Processor	Pentium 166
RAM	32 MB for Windows 95/98
	48 MB for Windows NT 4.0 or higher
Hard Disk Space	340 MB with 11 ms or faster access time, 70 MB for installation
Monitor	SVGA color with 800 x 600 resolution
Graphics Adapter	1 MB RAM
Parallel port for printer output	recommended
Communication port and modem for faxes and EDI transmissions	recommended
Laser Printer	recommended
Mouse	required
Network Card Speed	56 Kbps (min.); 10 Mbps (rec.)
CD-ROM drive	recommended

Database Server

Database	Microsoft SQL Server 6.5 (with Service Pack 4 or 5) or Microsoft SQL Server 7.0
Operating System	Windows NT Server 4.0 or higher
Processor	Dual Pentium Pro 200 or equivalent
RAM	128 MB (min.) for 10 users or fewer; add 4 MB per user after 10
Hard Disk	1 Gig with 11 ms or faster access time (min.); 4 Gig SCSI with PCI Controller (rec.)
Protocols	TCP/IP, IPX/SPX
Network Interface Card (NIC)	10 Mbps
Bus Architecture	EISA or PCI
CD-ROM drive	required for installation