

## Introduction to MAX ERP

### MAX Enterprise – Internal Modules

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#### Intentions:

This document was written to provide a high level overview of ECI Software Solutions MAX Enterprise Resource Planning (ERP) application for both prospects and customers that are interested in learning more about its features and functions.

For questions or support on this document, please contact:



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### About ECI Software Solutions

For more than 30 years, ECI has helped thousands of companies compete and grow with integrated and dedicated ERP business management software, technology solutions, ecommerce, and services for independent companies. We help Small and Medium-sized Enterprises (SME) compete and grow by providing industry expertise and purpose-built solutions that make doing business easier.

If you have any questions about the products and services that MAX offers, please contact your MAX Account Manager.



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### MAX ERP Manufacturing Software

MAX ERP helps growing manufacturers control their resources with an easy-to-use solution that reduces the cost of manufacturing, automates manufacturing compliance, and improves profitability, all while enhancing customer service and satisfaction.

Through seamless integration with Microsoft Dynamics GP<sup>®</sup> and Intuit QuickBooks<sup>®</sup>, MAX offers the power of integrated ERP and boasts a particularly strong footprint with manufacturers that must maintain compliance with government or industry regulations, manages recalls and control, and document product revisions and engineering changes.

### Introduction – MAX Module Walkthrough

With thousands of implementations in North America, MAX ERP Software provides complete manufacturing, sales, and accounting control. It is best suited for small to mid-sized discrete manufacturing companies who want a user-friendly interface combined with powerful ERP functionality that will help them get the most from their existing resources. Affordability and easy, rapid implementation help make MAX an attractive solution for independent companies as well as divisions of larger corporations.

MAX users can choose from over 35 fully integrated core modules that cover the full range of manufacturing and accounting requirements. A no-nonsense system, MAX offers a full-scale solution for enterprise needs like Engineering, Customers, Scheduling, Material Management, Production Management, Information Technology and Executive Finance.

By ensuring that everybody is "reading off the same page," MAX will enable your team to produce better results with fewer mistakes and provide E-Manufacturing solutions to extend your visibility in the electronic supply chain.

### Table of Contents

The MAX System manager is organized into departments or areas of operation.



These are the same areas illustrated in the ERP Systems Overview Model.



Figure2. ERP Overview Model



#### Engineering

- Bill of Materials
- Alternate BOM's
- Manufacturer's Part Control
- Product Configuration
- ECO Management

#### Customers

- Quoting/Estimating
- Sales Order Processing
- Shipping
- Advanced Shipping / EDI
- Consignment
- Warranty Tracking / RMA

#### Scheduling

- Demand Management
- Master Production Scheduling
- Capacity Management
- Planning Simulation

#### Production

- Shop Floor Execution
- Priority Planning & Control
- Alternate Processes
- Subcontract Services
- Labor Tracking

#### **Materials**

- MRP
- Inventory Control
- Physical Inventory
- Lot/Serial Tracking
- Recall Management
- Purchasing
- Subcontract Processing
- Repetitive Manufacturing











#### Finance

- Financial Integration
- Consolidated Invoice
- Multiple Currency
- Product Costing
- Multiple Cost Sets
- Job Costing
- Stock Revaluation

### **Information Technology**

- On-premise or Hosted
- MAX System Manager
- User Designed Fields
- Extract Transform & Load
- Transaction Security
- Archive Manager
- MAXUpdate
- MAXAnywhere

### Data & Reporting

- Standard Reporting
- Custom Reporting
  - Crystal Reports
  - Excel Analytics
  - SQL Server Reporting Services
- Alerts & Automation KSAA







### MAX Additional Resources

In addition to this document, please understand that the following resources are available to help you.

#### **MAX Modules, Tools and Utilities**

See our additional brochure for a complete listing of third party modules, tools and utilities.

#### See MAX in Action!

Visit us on the web at www.max4erp.com to view our online demonstrations, and find out why so any manufacturing pros have come to rely on MAX over the years.

#### Attend a FREE MAX Webinar

Choosing the right ERP solution doesn't have to be a daunting task. We provide "live" online demonstrations that are designed to provide an introductory look at MAX's core ERP functionality. Please contact us for a schedule of events.

#### **MAX Professional Services**



Behind every ERP implementation are what we refer to a "background concepts." These concepts include manufacturing control systems and environments, business conflict, industries and methods (how volume and variety effects manufacturing), standard processes, manufacturing philosophies (lean manufacturing, constraint management, ERP), implementation planning, key performance indicators and keys for success. All of these topics, when understood and applied to your implementation can accelerate building business value.

In addition to all operational areas, our Professional Services team can help you navigate through these concepts and help assure a successful implementation.

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# Bill of Materials

Build and maintain Bills of Material (BOMs) in one visual workspace.

The ERP system narrative typically begins with the products and services

being produced by the manufacturer. In other words, sales need to have

something to sell. The engineering function is tasked with identifying

parts and how those parts go together to build product structures. For

purchased material, this often includes specifying the manufacturer and their part numbers. This includes alternate structures areas where

known substitutes are available. For the assemble to order environment, it involves product configuration. The engineering change order (ECO) management system governs and communicates changes to these parts and

- Part creation and maintenance
- Multiple levels
- Reference designators

Engineering

- Top Down or bottom-up product structure review
- Reports

structures.

• Mass updates

Bill of Materials is one of the cornerstones upon which the MAX system is built. The screens and reports offered in this module enable you to build and maintain BOMs in one visual workspace, with all relevant information at your fingertips with a click of your mouse. This module also maintains important part information and enables you to review product structure data from the top down or from the bottom up.

### Engineering

- Bill of Materials
- Alternate BOM's
- Manufacturer's Part Control
- Product Configuration
- ECO Management

				in master seriedar	o r dit	
Desc (	Computer			On Hand	1	
L				Non Nettable	10	
BOM UO	M EA Part Notes	Planner ID	000	Issued MTD	4	
Cost UOI	M EA	Class Code	A	Issued YTD	4	
Cost/Unit	1548.67233186	Rev. Level	A	Sales MTD	4	
Default Stock ID	FG	Comm Code	FG	Sales VTD	4	
Zone	20	Buyer	000	PurlT	0	
		Yield	100	Mfg LT	5	
UDF Key		UDF Ref		-		
)F Key		Yield UDF Ref	100	Mfg LT	5	

### Part Master — Information at Your Fingertips

Figure 1. All Part Master data is just a mouse click away.

- All part master data is available using a tabbed dialog box.
- Data is departmentalized by company function for easy access and maintenance.
- Add notes to a part and/or BOM (Reference Designators) using Cut & Paste from your favorite word processor.
- Icons attached to parts allow you to quickly determine what type of part it is.
- Calculate standard costs using material, labor, and burden cost elements with "cost rollup" logic.
- Maintain separate units of measure for manufacturing, purchasing, and costing.
- Support for manufacturer's part control.

#### Part View — Audio and Visual Documentation

- View any BMP, PCX, TIFF, TGA, GIF, DCX or JPG graphics file.
- Play any voice, music or movie file associated with a part.
- Quickly start any application with the OPEN button.

	00		<b>60</b> °	A			
Desc Ha	ard Disk	c		1	1 78		
BOM UOM	EA	Drawing Number	4100			- )	
Yield %	100	Comm Code	Elec	-11-	MAN STREET	= (	
Scrap %	0	Engineering Status	2 -		e intra		
Revision	Q	Date Added	3/16/2003			_	
LLC	2	Date Obsoleted	11	-	-		
Drawing File Name	C:\Ex	act\RMServer\CUST(	DMVhard_(	Show		Open	J

Figure 2. To get information you need quickly, MAX's Browser Technology allows you to have a window into even the largest databases.

#### Part Master Browser —Get the Information you Need

earch						F	lecords	Found: 28
Part ID		*			् 🔳	6		<b>B B</b> (
Part ID	Part Description 1	Part Description 2	Part Type	Commodity	l Planner ID	Class Code	Buyer	Engineering
1000	Computer		M	FG	000	A	000	2
1100	Portable Computer		М	FG	000	A	000	2
1200	Laptop Computer	Black, 1 TB Hard Drive	м	FG	000	A	010	2
2100	System Unit		A	Assy	000	В	000	2
2200	Cabinet		A	Mech	000	C	000	2
2300	Mother Board		A	Assy	000	С	000	2
7 2300B	PCB		В	Elec	000	В	010	2
2400	Portable System Unit		A	Assy	000	С	000	2
2500	Portable Cabinet		A	Mech	000	С	000	2
7 3000	Keyboard		В	Elec	000	С	010	2
<b>7</b> 3100	Monitor		В	Elec	000	С	010	2
3200	Floppy Disk		0	Elec	000	С	010	2

Figure 3. To get information you need quickly, MAX's Browser Technology allows you to have a window into even the largest databases.

### Visual BOM Builder—Visual Workplace

🔓 Visual BOM					_ = X
S 1 + 3/15/2020 All dates Zero ntv Alternate Code	Search	Records Found: 28	1.11 C	20	
	Part ID	•	Q 🔳 🖌	7	
	Part ID	Part Description 1	Part Description 2	Part Type	U Commodity 🔼
Computer	<b>1</b> 000	Computer		м	FG 🗎
	<b>8</b> 1100	Portable Computer		M	FG 📥
	<b>.</b> 1200	Laptop Computer	Black, 1 TB Hard Drive	M	FG
зикизова 🔊 2100 1 EA	2100	System Unit		A	Assy
Sustem Linit	2200	Cabinet		A	Mech
System of it	2300	Mother Board	0	A	Assy
	85 2300B	PCB	8	В	Elec
	2400	Portable System Unit	8	A	Assy 🔽
3/16/2003 1 EA	2500	Portable Cabinet	0	A	Mech 📃
Keyboard	3000	Keyboard	0	В	Elec 👱
3/16/2003 3100 1 EA	1 ± □ Imp 1000 - ≫ 2100 - ≫ 2200 - ≫ 2300 - № 3200	losion All dates Zero Computer Q System Unit 1 Cabinet 1 Mother Board 1 Floppy Disk 2	oqty ♥ Desc ♥ Detail Alt ty U C T 1000000 EA U N 1000000 EA U N 1000000 EA U N 1000000 EA U N	ernate Code Eff Date 3/16/2003 3/16/2003 3/16/2003 3/16/2003	Alternate Cod
	- 3600 4 3650 - 3000 - 3100 - 3100	24V Power Supply 1 Hardware Kit 1 Keyboard 1 Monitor 1	.000000 EA U N .000000 EA U N .000000 EA U N .000000 EA U N	3/16/2003 3/16/2003 3/16/2003 3/16/2003	

Figure 4. Visually build and maintain BOMs in a single workspace.

- Splitter windows define 3 separate panes designed to maximize the workspace by having all relevant data available on the desktop.
- Drag & Drop component parts and existing BOMs to build and maintain bills of material.
- Standard, planning, and alternate BOMs are produced utilizing the same user interface.
- Display any combination of single or multilevel explosion or implosion and all relevant data.
- Display standard and alternate BOMs in same format.
- Copy all component parts from one BOM to another.
- One centralized bill covers engineering, manufacturing & costing needs.
- Effective date logic (i.e., recent dates supersede previous dated records) allows for quantities of the same part to be changed, new parts added, parts removed, etc. over time providing a "historical" BOM.
- Drill down capability allows you to view related information with a click of the mouse.
- Color coded structure links indicate what changes have occurred in the BOM.
- Use pseudo and phantom logic to control "build through" assemblies.

### BOM Mass Change & Delete — Quickly Implement Engineering Changes

From Part ID 1000	To Part ID 1100	Part ID Pelete as OParent Component
Description Computer	Description Portable Computer	Description Portable Computer Eff. Date < 3/15/2020
Output File	* VRMSERVER LOG MAX G	Mass Delete
Mass Change		Status Delete

Replace an old component part with a new component for every product structure where it is used.

- Delete all product structure relationships for a specific part as either a parent or component part.
- Enter the engineering change number authorizing the change.
- Control what BOMs are being changed or deleted with "effectivity date" logic.
- Automatically generate a report listing the new and deleted relationships.
- Graphical status bar indicates % completion and if action was successful for immediate confirmation.

#### **Reports — Instant Access to Critical Information**

MAX uses the #1, award-winning reporting tool, Crystal Reports, as its reporting engine. All reports are customizable and have extensive sort and filtering capabilities, giving instant access to the information you need in a format you are used to.

- Zoom in on reports with 3 levels of magnification.
- Display reports before you print.
- Send reports via e-mail.
- Export reports to another application

### Alternate BOM's

There are often different methods to produce a manufactured item and this information also needs to be stored and controlled. With MAX Alternate Processes, Alternate BOMs may be stored along with normal or "standard" BOMs.

Part ID 2300 Desc Mother	Board	Current Attemate BOM Attemate Routing	
Alternate Proc	ess		
Alternate Code	e 2300-B01	Alternate Desc	Replace CPU With Fast CPU
UDF Key	1	UDF Ref	
Note			

Figure 6. Maintain Alternate Process - BOM

Alternate BOMs begin with establishing a unique code. Then a BOM is typically copied from a standard BOM and modified to represent the change. Alternate BOMs can then be seen in inquiries and reports. Alternate BOMs can be costed.

The Alternate BOM can be entered into the Shop Order to instruct MAX to use the alternate pick list. From there, normal Shop Floor Execution takes over for managing and controlling that order.

If the Alternate BOM will be used as the "standard" for a long period of time, MAX can be directed to use it in both cost roll-ups for determining standard product costs and in Materials Requirements Planning MRP.

### Manufacturer's Part Control

Do not wait until failure analysis to find out the wrong part was purchased or received.

With Manufacturer's Part Control in place, Engineering can define precise part relationships that specify exactly which manufacturers' parts fill a requirement. MAX Manufacturer's Part Control lets you assign and control relationships between your internal MAX part identifiers and manufacturer's part numbers, allowing you to control not only your product structure but also your inventory at the bills of material level. MAX displays manufacturer's part information to Purchasing so that competitively priced supply meets demand. Guarantee that finished goods match the exact product specifications using MAX Manufacturer's Part Control.

Manufacturer's Part Control gives you the ability to:

- Specify the approved manufacturer(s) and their part numbers for a particular MAX part number.
- Specify up to 10 preferences for which part to use.
- Create relationships between MAX parts, the vendors you purchase them from and manufacturers' part numbers.
- Use data throughout the purchasing and receiving process.
- Produce an "approved material list" as part of your incoming quality program.

Part ID	3400	🐯 🖉 MPN Part	
Desc	CPU		
Manufac	turer's	Part Number	
MPN		PT-500SX	
Manufac	turer	Intel	
Descripti	ion	500 Mhz CPU Preference Code	· •
User Def	ined –		
UDF Key	1	UDF Ref	

Figure 7. Relate MAX part numbers with Manufacturer's Part Numbers

Gearch Manufacturer's Part	Nurr 👻 📔		(C	Be	ecords Found: 17	
Manufacturer's	Part ID	Manufacturer	Preference	User Defined Key	User Defined	
.03255	3500	Bethlehem Steel	1	1	-	1
350BL	3250	Verbatim	1			
6511-TW	3000	Acer	1			1
6511-TW	3800	Acer	1	14 - 14 - 14 - 14 - 14 - 14 - 14 - 14 -		
ADM-1000S	3450	Advanced Micro	2			1
ADM-500S	3400	Advanced Micro	2			1
HW-1000	3650	General Metal	1			1
ILP-3600	3600	Illinois Power	1			1
ILP-3600F	3625	Illinois Power	1			1
KG-256K	3700	Kingston	1			1
MP-3601	3600	Midwest Power	2			1
PT-1000SX	3450	Intel	1			1
PT-500SX	3400	Intel	1			1
SX-1G	4100	Conner	1			
V50	3900	Optiquest	1			

Figure 8. Browse Manufacturer's Part Numbers throughout MAX core modules.

With Manufacturer's Part Control you will:

- Ensure purchase of only approved manufacturer's parts.
- Print approved manufacturers on PRs, POs, and shop paperwork.
- Cross reference your engineering, planning, and manufacturing staff reports to resolve shortages, quality problems, or pricing issues more simply.
- Add new part number relationships "on the fly".
- Increase visibility to alternative suppliers for each part.

Vendor	006	Part # 340	10	Part Master
Mfg's P/N	PT-500SX	MPN Strip	Status	A - Active 👻
Manufacturer	Intel	500	y Vendor Type	N - Normal 👻
Vendor Name	Lo Trading		Vendor Status	A - Active 🔹
Contact Name	Mr. Lo		Vendor Phone	1-365-9834
Part Description	CPU		Purchasing UOM	EA
Currency \$	US DOLLARS		YTD Purchases	833.33375
Vendor's Part #			YTD Receipts	0
Tax Code			YTD PO Count	1
User Defined Key			User Defined Reference	
ubcontract Charg	e	- Anno		
Base Charge	0		Service ID	
rice Break Informa	ation			
Quantity 1	1		Price/Unit 1	125.0000
Quantity 2	0		Price/Unit 2	0.0000
Quantity 3	0		Price/Unit 3	0.0000

*Figure 9. Choose approved parts required from the approved vendor list.* 

### **Product Configuration**

Is your product line configurable? Do you avoid offering your customers too many choices because you do not see how to avoid a logistical nightmare?

MAX Feature/Option Configurator gives you more logistical control over your configurable parts, making your operation more flexible and helping to increase customer satisfaction. Although you may build a "standard" product, you can configure it to match specific customer requirements with a variety of available features and options. For example, if your product happened to be a computer, you could offer different sized hard drives to accommodate the wide range of needs you are likely to face.

Using Assemble to Order (ATO) logic allows your order entry staff to build engineering approved, final assembly configurations during the Sales Order Processing process and automatically generate unique shop orders to produce that order. This process drastically reduces the number of actual part numbers to build all the combinations – saving engineering time and resources/

Offer your customers a configurable, flexible product line, and give them the means to purchase what THEY want!

### Maintain Descriptions for each Feature/Option

Part ID	Part Description 1
5000	RS900
Feature Number	Feature Description
02	System Unit

Figure 10. Maintain Feature Descriptions.

Part ID	Part D	escription	
5000	RS90	0	
Feature Number	Featur	e Description	
02	Syster	n Unit	
Option Code	Option Descrip 2100 System	otion Unit	
Option Resale Price	Option Type	Primary UOM	Secondary UON
500	N - Normal	<b>*</b>	
Conversion Factor	Audit Multiple		
Controlotori actor	r la alt manipro		

Figure 11. Define features and options for any configurable part in your system.

With Feature/Option Configurator, you can...

- Engineer features and options so that the final configuration of the product is performed during the sales order processing function and not in an engineering workflow.
- Empower your sales team to build products the way your customers want them.

- Direct shortcuts from Feature and Option Inquiries to Feature and Option Maintenance windows that eliminate navigational steps.
- View top selling options by product line with sales analysis reports.
- Automate communication with MRP planning with scheduled processes.
- Appreciate a user-friendly UI that:
  - $\circ$  simplifies maintenance of feature and option information.
  - clarifies display of product line information.
  - minimizes the steps required to navigate through the module.

When used with Planning BOMs, Configurator automatically balances the demand between "Planning" Master Schedule orders for the product line and actual Master Schedule orders. Other benefits include:

- Aids in accurate forecasting for a diverse variety of potential end items.
- Requires fewer bills of materials, and less maintenance.
- Makes adding or substituting options quick and easy.
- Minimizes overhead in the order entry function.
- Simplifies feature and option selection by opening the Configurator dialog automatically when a user enters a sales order line item for a family (F) type part.
- Allows you to copy feature and option descriptions from one part to another.
- Allows users to designate variable quantities of an option during sales order entry.
- Provides the ability to specify option quantities in user-definable primary and secondary units of measure, such as feet and inches.

#### **Maintain Feature Bill Qualifier**

	піўгацію	Description		
50	00	RS900		
Feal	ture BOM Data			
Cor	nponent Part ID	Description	Effective Date	
21	00	🔁 System Unit	3/16/2003	
U	- Units • 1			
Conf	Iguration Decails Options New	Option	Include Evolude	
Conf	Feature	- Option	Include L'Aclude	and the second second
Conf	Feature Power Supply	24-24v ps		
Conf 01 02	Power Supply System Unit	24-24v ps		

Figure 12. View series of features and options and their related prices

### **Planning Bill of Material**

E Visual BOM						_ = ×
S 1 + 3/15/2020 All dates Zero gty Alternativ	ite Code	Search Records Found: 28				
		Part ID 🔹	् 🔳 🗸	4		
		Part ID Part Description 1	Part Description 2	Part Type Commodit	I Planner ID	Class Code E
RS900		7 3625 48V Power Supply		B Elec	000	с 🛛 🗖
		📲 3650 Hardware Kit		Y Elec	000	с 🛛 🗖
		3700 Memory		B Elec	000	C 0
3/16/2003 🎘 2100 60	EA	🐺 3800 Portable Keyboard		B Elec	000	C 0
Sustem Unit		3900 Portable Monitor		B Elec	000	C 0
Oystein onk		The super cru		B Elec	000	C 0
		4100 Hard Disk		B Elec	000	C 0
		4180 1TB Hard Drive		B ELEC	000	C 0-
3/16/2003 2400 40	EA	<u>⊷ 5000</u> RS900		F FG	000	C 0
Portable System Unit		6000 Network Cable, 6 to 25'		B Elec	000	C Q
		•				*
		1 🛨 📰 Implosion 🔲 All dates 🔲 Zero o	qty 🔽 <u>D</u> esc 🔽 De <u>t</u> ail 🛛 A	Alternate Code		🔲 All Alternate
3/16/2003 3/16/2003 80	EA 4	45000 RS900	Qty U C	T Eff Date A	Iternate Co	de
Floppy Disk		- 22100 System Unit	60.000000 EA U	P 3/16/2003		
		- 2400 Portable System Unit	40.000000 EA U	P 3/16/2003		
		- 1, 3200 Floppy Disk	80.000000 EA U	P 3/16/2003		
	FA	- 89 3600 24V Power Supply	55.000000 EA U	P 3/16/2003		
3/6/2003		- 89 3625 48V Power Supply	55.000000 EA U	P 3/16/2003		
24V Power Supply		-89 6000 Network Cable, 6 to 25'	1.000000 EA U	P 3/16/2003		
	1000000					
3/16/2003 3625 55	EA					
48V Power Supply						
	-					

*Figure 13. Define the percentage of options you expect your customers to order.* 

### **MAX Feature Option Configurator Highlights**

- Consolidates Feature Bill Qualifier and Batch Master Schedule Order features directly into the Configurator module.
- Simplifies access to family part information.
- Permits 99 features per product line and over 1,000 options per feature.
- Enables "Master Schedule Material Planning" where establishing a master schedule for a product line creates component demand utilizing a "Planning Bill" based upon forecasted or historical percentages.
- Provides an assemble-to-order environment by automatically generating Master Schedule final assembly orders which specifically include or exclude components based upon the options selected when users enter sales order data.

### **ECO Management**

Track all aspects of an engineering change order and control the planning, approval, and implementation process.

- Track ECRs & ECOs
- User Defined Documents
- Track Approvals & Notifications
- Project Time Tracking
- View MAX Data
- Field Level Security
- Customizable

ECO Manager helps you control the planning, process, documentation, and implementation of your engineering change orders. ECO Manager includes tools for defining all parts, bills of material and documents needed to make a complete engineering change with a minimum of effort. ECO Manager provides real-time access to inventory, vendor, sales, and transaction history records, synchronizing the engineering change process with MAX to ensure accurate tracking.

### Engineering Change Orders—Track ECOs

ECO 'New K	(eyboard'	
Title: Status: Responsibility:	New Keyboard       1-Requested   Feasibility Review       ECO Number:       2       Manager       Category:       Hardware	•
ECO   Parts   Reference ECI Project: Type: Product Line: Originator: Phase:	BOMs       Routings       Documents       Approvals       Hours       Tasks         R:       Image: Date Created:       3/15/2020         Image: Date Released:       Image: Date Release:       Image: Date Release:         Custom Configurations       Sched Release:       Image: Date Cost:         Image: Date Cost: Priority:       Image: Date Cost: Date Cost:       Image: Date Cost: Date Cost:	
Distribution: BOM/Parts/ Description   F	/Eng Work   DWGS/Spec Notes   Material Disposition   WD Notes   Reason for Change   Testing And Validation   ECO Meetings And General Work	*

Figure 14. Quickly view ECO information

- Include in an ECO any combination and quantity of parts, bills of material, routings, and documents.
- Track Engineering Change Requests (ECRs) as separate items from ECOs.
- Relate ECRs to ECOs to record resolution of requests.
- Review ECOs on-screen and print or e-mail ECOs directly to the persons required for approval and notification.

- Release ECO BOMs and Routings automatically to MAX upon completion.
- Project tracking feature allows the Engineer to measure the progress of the ECO project by looking at the cost, hours, and completeness of the job.
- Track the time spent on each ECO.
- Look up on the Tasks screen all the items affected by an ECO including parts, BOMs, routings, documents, and approvals to quickly identify action required.

tle:	New Keyboard	2				
atus:	1-Requested   Fea	sibility Review 💌	ECO Number:	2	Ū	
esponsibility:	Manager	•	Category:	Hardware	•	
CO Parts	BOMs Routings	Documents Ap	provals Hours	Tasks		
+ X 😭	Select <u>A</u> ll	Deselect All				
Part Id	Description	Action	Stati	10	Responsibility	
2 3000	Keyboard	Change 1	-Bequested I Feat	sihilitu Review	Manager	
7 3000	Keyboard	Change 1	-Requested   Fea:	sibility Review	Manager	
<b>9</b> 3000	Keyboard	Change 1	-Requested   Feas	sibility Review	Manager	
₽ 3000	Keyboard	Change 1	-Requested   Fea:	sibility Review	Manager	
<b>3000</b>	Keyboard	Change 1	-Requested   Fea:	sibility Review	Manager	
<b>3</b> 000	Keyboard	Change 1	-Requested   Fea:	sibility Review	Manager	
<b>3</b> 000	Keyboard	Change 1	Requested   Fea:	sibility Review	Manager	
<b>2</b> 3000	Keyboard	Change 1	-Requested   Fea:	sibility Review	Manager	
<b>2</b> 3000	Keyboard	Change 1	-Requested   Fea:	sibility Review	Manager	

### ECO Parts—Manage ECO Parts

Figure 15. Real-time access to MAX Part Master data can be added or changed directly from ECO Manager. Codes are user-definable within the MAX requirements.

- Engineers can directly access manufacturing data from MAX for parts, bills of material, sales orders, shop orders, manufacturer's parts, inventory, other ECOs, engineering documentation, part notes and invoices.
- Each part on the ECO retains its own data so that status and reason for each part can be tracked separately.
- Locate Parts allows you to find data in MAX directly from ECO Manager giving you the data you need at your fingertips.
- Find part vendor, manufacturer's part, and related data in MAX quickly and easily.

### ECO Bills of Material — Manage ECO Bills of Material

ECO 'New K	(eyboard'							
Title:	New Keybo	ard						
Status:	1-Requeste	ed   Feasibility R	eview 💌 EC	CO Number: 2				
Responsibility:	Manager		▼ Ca	ategory: Hardware		•		
ECO   Parts	BOMs Ro	utinas Docun	nents Approva	ls   Hours   Tasks				
+ X 😭		Select <u>A</u> ll	Deselect All	Show Deleted Items	Tree Vi	ew		
Parent Part	t Compo	onent Part	Action	Status		Eff Date	Qty Per	Responsibility
量 1000	3000	C۲	lange	1-Requested   Feasibility	Review		0	
		10.00	L. L	1 Description of a Description of	Davian		1	

Figure 16. Locate and track bills of material from within ECO Manager and MAX

- Each ECO can have a Bill of Materials (BOM) associated with it, tracking additions, changes, and deletions to the BOM.
- Each ECO BOM is tracked separately to document the status of that BOM and where it is in the process of engineering change.
- Once ECOs are approved, ECO Manager allows you to automatically update the MAX BOMs with the approved changes.
- All codes in the master data are user-definable to help tailor ECO Manager to your environment and way of doing business.

#### ECO Documents—Manage ECO Documents

	Locate Docum	ent												
Se	arch By:	Oper	ration: Searc	h For:		Order By:	:							
All		- =	<b>-</b>		Search Now	Documer	nt ID 🗨							
	Document ID	PartID	Doc Type	Status	Responsibility	Title	Location	FileName	Document Number	Drawing Size	Revision	Minimum Revision	Memo	Date Created
	1	1100	SPEC	Released		1100	C:\EXACT\MAX\Engl	1100.pdf	1100		1	-		2/2/2011 5:58:00 PM
	2	1000	SPEC	Released		1000	C:\EXACT\MAX\Engl	1000.pdf	1000		1		2	2/2/2011 6:08:00 PM
•	3	2100	SPEC	Released		2100	C:\EXACT\MAX\Engl	2100.pdf	2100		1			2/25/2011 5:33:00 PM
	1		1	1										
	<u>O</u> pen	New	<u>D</u> elete											Close
-	1000		1.4.82											

Figure 17. Manage documents from any application.

- Each ECO can have documents associated with the part(s) on that ECO. ECO Manager tracks changes on each document.
- Setup an unlimited number of document types and assign document names that conform to your business.
- A separate viewer and editor can be assigned to the document name so that each document can be viewed or edited according to your security rights.
- Master documents reflect your ability to define ECO data, using the same terms you commonly use to run your business.

### ECO Routings—Manage ECO Routings

ECO 'Chang	ge Computer Routing'						- • •
Title:	Change Computer Routing	21					
Status:	1-Requested   Feasibility Review	ECO Number:	3				
Responsibility:	Manager	<ul> <li>Category:</li> </ul>	Hardware	•			
ECO Parts	BOMs Routings Documents /	Approvals   Hours	Tasks				
+ X 😭	₽₩ Select <u>A</u> ll <u>D</u> eselect All						
Part ID	Seq # Action	Status	Responsibility	OPID	Operation	Work Center	Туре
•							F

Figure 18. Track routing changes, additions, and deletions

- Each ECO can have routings associated with part(s) on the ECO.
- Display Part Routing information to easily assess the impact of an ECO on the production process.
- Maintain part routing data without affecting the manufacturing system until the ECO is approved and released.
- ECO Routings can be either imported from the manufacturing system in which they are updated or deleted, and new routing operations added.

### ECO Notifications and Approvals—Track ECO Notifications and Approvals

itle:	New Keyb	pard						_		
itatus:	1-Request	ed   Feasibility F	Review 💌	ECO Numi	per: 2			_		
Responsibility:	Manager		-	Category:	Har	dware		•		
ECO Parts	BOMs   Ro	utinas   Docu	ments Appr	ovals Hou	us   Task	ks				
Users:										
🦰 All Users		Full Name	Departmen	t Of	fice Ext.	E-mail Ad	User Na	me		
	uest	👷 Manager				MANAGER	MANAGI	ER		
Approvals:	uest ⊕ X	Manager	Select A	Desele	ct All	MANAGER	MANAGI	ER		
Approvals: Full Name	est	Manager	Select <u>A</u> l	Desele	ct All	MANAGER	MANAGI	ER		
Approvals: Full Name Manager	est	Manager	Select <u>A</u> Status ending Revie	I Desele Us W MANA	ct All   er Name GER	MANAGER	MANAGI	ER		

Figure 19. Send ECO notifications via e-mail to improve document management and review.

- Assign electronic notifications and approvals to ECOs.
- The engineering manager can track notifications and signoffs before releasing the ECO to the manufacturing system.
- E-mail the ECO form to a reviewer distribution list and speed the review and approval process.
- Record all notes and memos made by the ECO reviewer, providing a complete chronology of all comments for future reference.

• The Locate Approvals screen quickly displays all the ECOs requiring your actions and allows you to update your approval status.

### **Engineering Summary**

The Bill of materials module holds all the part and structure information about the flow of materials through your plant. This data, along with the part routing, which is in the Shop Floor Execution module, forms the foundation for planning, transacting, and accounting information. This critically important information is a main building block of the Material Requirements Planning (MRP) system. A high degree of accuracy is required for successful operation.

## orders. Orders can also be entered via Electronic Data Interchange (EDI).

No business can exist without customers willing to pay for their goods

This is where the parts and services that are sold are set up for use on

In some industries (i.e., those not selling standard product from stock),

quoting is critically important. Quotes are hopefully converted to sales

customer orders (including consignment) and credit memos.

and services. Those Customers are identified and established in this area.

#### Customers

- Quoting/Estimating
- Sales Order Processing
- Shipping
- Advanced Shipping / EDI
- Consignment
- Warranty Tracking / RMA

The order is the basis for tracking Bookings (incoming dollars), Backlog (orders waiting to ship) and Billings (outbound dollars). These metrics vary with the manufacturing environment in which the organization is found. This area also handles Shipping and Advanced Shipping is used to create Bills of Lading (BOL) for commercial carriers. Customer returns are tracked and managed via the Warranty Tracking model.

### **Quoting/Estimating**

Customers

Start winning more business. Create, revise, and close sales quotes quicker and easier.

The correlation between timely responses and increased conversions of quotes to orders is well documented and highlights the need for an efficient quoting mechanism. The ability to quickly respond to a request for a quote is critical in a competitive environment, and if you do not use your sales

order system or manufacturing database to help you manage the information that goes into the quote, a quick, accurate response can become exceedingly difficult to provide to your customers. Fully integrated with MAX, the Quoting module allows you to create, estimate, revise, and clone sales quotes, then easily convert them into MAX sales orders, eliminating time-consuming and error prone data entry steps and allowing you to win more business.

💙 Quote 1 - 90000001							_ = 3
<b>eci</b> . Max <sup>®</sup>				$\square$		$\mathbf{O1}$	
				Quote Num \$0000001	aber Quot 1/4/202	te Date 1	Customer ID BLNCPNT
Balancepoint Te 497 Whispeing Di Linderhurat IL 60046 6717 USA	hnologies ines Road			Ship To	icro Manufacturing Systems 120 Cameron Road orristown N 1814 SA		
PO Reference Number		2%	Terms 10 Net 30 Davs	Shi UPS -	p VIA Ground	F.O.B 01	. Point
Requested By		Sales Representa	ative	Status Open	Quote No. 90000001	Custo BLN	mer ID CPNT
Line DL Order Qty	1	Part ID	Description/Notes	Unit	Unit Price	Ext. Price	Due Date
01	2.00 1000		Computer	EA	3130.25	5 6260.5	02/19/2021
comments:	1	Order <u>N</u>	lotes	Extended Fields	Total	\$ 6,260.50	

Figure 1. With a Quote form that contains familiar features of the Sales Order, the sales order process begins before the sales order is even initiated.



With Quoting, you can...

- Improve the response time and accuracy of quotes to customers.
- Quickly and easily convert quotes into Sales Orders.
- Run a Quote variance report for analysis.
- Print, fax, and email the quote document.
- Integrate with Customer Relationship Management (CRM).

MAX Quoting also presents a powerful estimating tool that enhances the sales order process by providing useful estimates to customers and collecting useful conversion data about each sale. Estimating allows you to produce price quotes using existing MAX product BOM and routing data, as well as MS Excel estimating spreadsheets. This flexibility exploits already existing data in your MAX database and the capabilities of industry standard estimating tools.

Cu	istomer E	Balancep	oint Technologies	Part	1000		C	omputer				
File	e Path 🛛 🗄	Balancep	oint Technologies900000	0010101.xls			Load [	Jata	Sav	e File	<b>X</b> C	lear
BC	)M Part	1000	Routing	g Part 1000	Load BO	M & Routing			Col	nated Price — J	Row: 19	Appl
4	A		В	C	D	E	F	G	н	1	J	
1	Parent Pa	art ID	Component Part ID	Comp Description	Qty Per	Unit Cost	Extended Cost	Scrap %	Scrap Cos	t Markup %	Total	
2	1000		2100	Sustem Unit	1.00	855.67	855.67	0.00	0.00	0.00	855.67	-
4	1000		3000	Kevboard	1.00	110.00	110.00	0.00	0.00	0.00	110.00	
5	1000		3100	Monitor	1.00	550.00	550.00	0.00	0.00	0.00	550.00	
6							4545.07			-	4545.07	
(	l otal Ma	terials:					1515.67				1515.67	-
8	Operation	n ID	Workcenter	Operation Description	Bun Time	Setup Time	Labor Bate	LOH %	LOH Cost	Markup %	Total	-
10	0010		ASSY	Assembly	0.5000	0.0000	10.00	200.00	10.00	0.00	15.00	
11	0020		QA	Test	0.6000	0.0000	10.00	200.00	12.00	0.00	18.00	1
12	-											
13	Total Lat	bor:						6			33.0000	
14	Total										1540 6700	-
10	i utdi.				1			10			1340.0700	-
17	Yield:										100.0000	
18												
19	Grand To	otal:									1548.6700	

Figure 2. Create quotes directly from existing product price estimates.

MAX Quoting Highlights:

- Use Drag & Drop to add Quote Line Items to a MAX Sales Order for quick entry or develop quote templates for items repeated on a regular basis.
- Clone quotes using the same specific quote information as an existing quote. Modify that information to create the new quote and save data entry time.
- Print quotes for internal or external electronic distribution as confirmation of part quantities estimated and prices assigned per quote line item.
- Integrate with Synergy.
  - Update the Synergy customer account card during the MAX quoting process.
  - Convert Synergy customer/prospect IDs to MAX customer IDs.
  - Automatically save resulting quote to the Synergy customer document.
- The MAX Multi-Currency option allows you to select from several currency types and exchange rates that may be applied to quotes for customers using a different currency.

Order-Line-Del	90000001-01-01	Part ID	1000	
Order Quantity	2	Desc	Computer	Ì
Foreign Value	6,260.50		Fixed Rate	1
Domestic Value	6,260.50		Variable Rate	

Figure 3. Customize currency info for each order.

MAX Quoting enhances your ability to respond to a customer's request for a quote. It eliminates repetitive data entry steps, saving time, increasing accuracy, and giving you the tools, you need to turn more quotes into sales orders. And with MAX's ability to handle multi-currency transactions, the borders of your business can stretch across the globe.

Now there is an easier, more efficient way to manage your quotes. Enhance your MAX System with MAX Quoting today!

### Sales Order Processing

Instantly enter sales orders, ship and invoice product and satisfy customer inquiries. SOP functions include:

- Sales Order Entry
- Shipping
- Invoicing
- Online Inquiries
- Order Notes
- Context Sensitive Help
- Part & Customer Discounts

Sales Order Processing lets you easily enter sales orders, ship and invoice product and satisfy customer inquiries. Now you will always know where orders are going and who they are going to. Full integration with other MAX modules allows you to view on-hand balances and customer credit information during the order entry process. This module also maintains customer data, tracks sales and invoicing and accumulates sales data for financial reports.

### Sales Orders—Everything from the Desktop



Figure 4. Enter orders on a WYSWYG Form.

### Shipping

### **Quickly Ship and Invoice Product**

- Ship orders as complete, partial, or individual line items.
- Automatic backorder calculation and tracking.
- Maintain multiple ship-to locations.
- Multiple options exist for shipping products.
- Packing list functionality allows for multiple sales orders on one packing list.
- Look up stock information to see how many you can ship and where the stock is located.
- Sell miscellaneous products and services without the need for an "inventoried" part number.
- User preferences allow tax to be charged on freight, warnings if no credit available and what % to allow for over shipments.
- View and maintain order and line-item notes.

Drder 2000000 Customer ID E>	4 (AC1	Order Type	CU Statu:	; Open	
Name Exact S	oftw	are			
Summary —				Currency -	
Line Item Total	\$	16400.00		Code	US Symbol \$
Order Discount		0.0¢		Desc.	US DOLLARS
Subtotal	\$	16400.000		Exc Rate	1.0000
Tax Amount	\$	1312.00	Tauabla	Terms -	Nut 20 David
Freight Charge	\$	56.45	Freight	Terms	Net 30 Days
Miscellaneous	\$	0.00	Taxable	Discount	0.00 %
	•		MISC	Net Days	0
Fotal Invoice	\$	17768.450		Discount [	Days 0
				Discount [	Date 0

Figure 5. Enter order discount, freight charges, miscellaneous charges, and currency rate. MAX will automatically calculate subtotal and invoice total

Customer <u>I</u> D	EXACT	Туре	OEM Sal	98		
Status Release	C Hold	UDF Key		UDF Ref		
urrency Code	US	Sales Rep ID		Territory		
Billing Inform	ation		Shipping Info -			
Exact Softw	are		Ship ⊻ia		FOB	
777 Mariner:	s Blvd		UPS - Ground		Our Plant	
San Mateo,	CA 94404		Ship To	/ Use Bill To	Ship Through	
USA			Iax Info			
			Taxable	Tax Exempt N	ło.	
	Show Details		Y-Yes *			
Comment 1			Tax Code 1	Tax Code 2	Tax Code 3	
Comment 2			SECITY	CASTATE		
Finance —						
Terms Code	Net 30 Days	C	redit Limit	0 D	isc. Rate	10
Apply to	L - Line Item only	- 0	/ Statements / Finance Charge	EIM	VAT	1
Do Not Alk	w Backorders					
Action						
			-			

Figure 6. Enter new customer information or edit existing data including default shipping, tax, and financial information

Y - Taxa	able Flag 📃 Assign Ta	x per Line <mark>I</mark> tem
Tax Code 1	Description	Rate
SFCITY	San Francisco City Tax	2.0000
Tax Code 2		
CACTATE	California State Sales Tay	6 0000

Figure 7.Related sales order information

Total	0.00	Part ID 1000		
Sales Committed	23.00	V Include Emp Stock ID	oty Locations Nettable?	Qty on Hand
Total Available	-23.00	BLNCPNT	N	10.00

Figure 8. Stock information window helps fulfill customer order requirements by displaying live stock information

### **Customer Inquiries—Satisfy Customer Inquiries on the First Call**

art ID	1000			Exclude Q	uotes		
art Description	Compu	ter					
Include Stati	us <u>4</u>	On Hand	0.00	Total	10.00		
Ord-	Line-Del	Туре	Stat	Customer	Qty Due	Due Date	Unit Price
1 200000	01-01-01	CU	3	BLNCPNT	8.0	0 03/23/2020	2965.50
2 200000	02-01-01	CS	3	BLNCPNT	0.0	0 03/29/2020	2965.50
3 200000	04-01-01	CU	3	EXACT	0.0	0 04/30/2020	3000.00
4 900000	01-01-01	QT	3	BLNCPNT	2.0	0 04/30/2020	3130.25
							_

Figure 9. Order Inquiry by Part - See the total picture of item demand based upon open orders

0	Status 3 (Ope	en) Orders	🔘 Statu	s 4 (Closed) Orders	J	
Z	Order #	Туре	Status	Cust. PO	Date Ordered	
	20000001	CU	3	BPT 1234	02/04/2020	
2	20000002	CS	3	0	02/10/2020	
3	20000003	CU	3		03/13/2020	
4	90000001	QT	3		03/15/2020	
						•

*Figure 10. Order Inquiry by Customer - View sales and purchase order numbers by customer for a quick reference to order status* 

- Provide answers to customer questions quickly with real-time information.
- Instantly look up order information and delivery schedules.
- Review order information by part, customer, customer's part number or purchase order number.
- Each inquiry can be accessed directly or progressively through one another.
- Drill down within an inquiry to view detailed order information.
- View shop information to answer delivery schedule questions.
- Cross-module inquiries enable your sales team to accurately and knowledgeably handle customer questions, quickly and conveniently.

<u>P</u> art ID	Part Ty	уре				
1000	M - M	aster Schedule	Part	*		
Description 1	On Hand Qty					
Computer (				10		
Part Price						
Part Price		eleased Orders	V Planned Or			
Part Price	Past Due	aleased Orders	Planned Or 3/27/2020	4/3/2020	4/10/2020	
Part Price	Past Due 60.00	eleased Orders 3/20/2020 0.00	Planned Or 3/27/2020 0.00	ders 4/3/2020 0.00	4/10/2020 40.00	
Part Price	Past Due 60.00	eleased Orders 3/20/2020 0.00 0.00	Planned Or 3/27/2020 0.00 8.00	4/3/2020 0.00 0.00	4/10/2020 40.00 0.00	
Part Price Forecast Customer Demand Dependent Demand	Past Due 60.00 0.00 0.00	3/20/2020 0.00 0.00 0.00	✓ Planned Or 3/27/2020 0.00 8.00 0.00	4/3/2020 0.00 0.00 0.00	<mark>4/10/2020</mark> 40.00 0.00 0.00	
Part Price Forecast Customer Demand Dependent Demand Total Demand	Past Due 60.00 0.00 0.00 0.00	3/20/2020 0.00 0.00 0.00 0.00 0.00	Planned Or 3/27/2020 0.00 8.00 0.00 8.00 8.00	4/3/2020 0.00 0.00 0.00 0.00	<mark>4/10/2020</mark> 40.00 0.00 0.00 0.00	
Part Price Forecast Customer Demand Dependent Demand Total Demand Projected Supply	Past Due 60.00 0.00 0.00 0.00 0.00 60.00	3/20/2020 0.00 0.00 0.00 0.00 0.00 0.00	✓ Planned Or 3/27/2020 0.00 8.00 0.00 8.00 20.00	4/3/2020 0.00 0.00 0.00 0.00 0.00	4/10/2020 40.00 0.00 0.00 0.00 20.00	
Part Price	Past Due 60.00 0.00 0.00 0.00 0.00 60.00 0.00	3/20/2020 0.00 0.00 0.00 0.00 0.00 0.00 0	✓ Planned Or 3/27/2020 0.00 8.00 0.00 8.00 20.00 20.00	4/3/2020 0.00 0.00 0.00 0.00 0.00 0.00 20.00	4/10/2020 40.00 0.00 0.00 0.00 20.00 0.00	

Figure 91.Schedule Summary Inquiry - Know what delivery schedule to quote with real-time supply and demand information.

### Advanced Shipping / EDI

The MAX Advanced Shipping solution helps you streamline the process associated with allocating, picking, and shipping orders delivered by commercial carriers. Finished goods inventory can be allocated to sales orders based upon priorities you control.

MAX Advanced Shipping Highlights

- Available inventory can be allocated to specific line/delivery items.
- View and assign sales order line items to a Bill of Lading.
- Create Bills of Lading by grouping and palletizing sales orders.
- Automatically calculate total weights and counts for all line items included on a Bill of Lading.
- Complete support for parts under lot and/or serial control.
- Add all needed specialized information to the Bill of Lading and print it.
- Print Canadian Customs Forms requiring same basic data.
- Shipping Availability and Allocation Inquiry allow the user to reallocate priorities.
- Keep a detailed history of all shipping records.
- Query Bills of Lading by tracking number, shipper, or customer ID.

	Status S-Released	Scan Verity Required
Customer ID	BLNCPNT Balancepoint Technol	ologies
Ship to Code	Balancepoint Technologies	
Addres	497 Whispering Pines Road	Shipper ID Time Zone
		Prepared by
		Checked by
		Loaded by
C.b.	Lindenhurst State II	
City Zin	60046 Country USA	Current Ship Date 3/15/2020 M Time 3:54:00 PM
Time Zone		Est. Arrival Date 3/15/2020 M Time 3:54:00 PM 🐑
Time Zone		
Totals		

Figure 12. Create and maintain Bill of lading from one multi-tabbed dialogue.

With MAX Advanced Shipping, you can...

- Review planned shipments and inventory allocation and make changes before recording the shipments.
- Review the dollar impact of inventory allocation choices before finalizing shipments.
- Process all shipments in one transaction, saving the usual line item by line-item shipping process.
- Benefit from automated shipping that is quick, accurate, and based upon priorities.
- you control.
- Prepare Pick Lists and Bill of Lading forms to augment the shipping process BEFORE the truck arrives at the dock. Easily update and print the BOL with accurate data BEFORE the truck leaves the dock.
- Automatically allocate finished goods inventory based on your priorities.



With Electronic Data Interchange (EDI) you can...

- Comply with customer requests to communicate electronically.
- Improve customer service.
- Streamline customer and vendor activity through the supply chain.
- Reduce the cost and improve the efficiency of your business transaction processes.

The MAX EDI module is a transaction-processing solution that provides inbound and outbound transaction processing to and from the MAX system and uses customer and shipment information in your existing MAX database to transact business-to-business (B2B) e-commerce between companies (i.e., your customers and suppliers) using different ERP systems.

### **Supported e-Commerce Transactions**

- Inbound
  - o Sales Order
  - o Forecast
  - Shipment Schedule
- Outbound
  - Advance Shipment Notification
  - o Invoice
  - Paging Notification

Processing Transac	ction: Forecast Order [In]	
Complete, Check lo	og for result	

Figure 14. Loading Customer Forecasts

The customer facing side of EDI uses existing data from Advanced Shipping. For actual EDI transmission and communication, we partner with DiCentral (Houston, TX).

Now there is an easier, more efficient way to manage your shipping procedures. Enhance your MAX System with MAX Advanced Shipping and EDI.

### Consignment

The MAX Consignment Module is designed to manage outbound consignment sales where title to goods on consignment remains with the manufacturer until the actual sale to the end user takes place. Items shipped to the consignee remain in inventory and have full visibility in either a customer specific or a generic consignment inventory location. The module offers the following benefits:

- Provides a method for tracking inventory shipped to a customer on consignment.
- Record and track orders for Consigned Inventory.
- Ship consigned items to Consignees.
- Manage Consigned Inventory (at the Consignee).
- Process Sales of Consigned Inventory and invoice upon shipment to the end user.
- Return unsold Consigned goods (to the Consignor from the Consignee).

### Warranty Tracking / RMA

Build customer satisfaction by improving product design by collecting data on returned goods and learning from past mistakes. A warranty is the beginning of an ongoing relationship between a manufacturer and a customer. Managing that relationship well can be the difference between costly returns due to continued poor product designs and satisfied customers who will be more likely to become repeat business.

MAX's Warranty Tracking Module provides the tools to manage the entire warranty process efficiently and effectively. Every time a shipment is made, a record of that shipment is created. With this data at your fingertips, you will be able to provide your customers and distributors with efficient, timely service.

When a customer calls wishing to return a defective unit, the shipment history can be searched, and depending on the warranty status of the item, that data converted to a Return Material Authorization (RMA). The RMA is the authorization for the customer to return the product and forms the basis for tracking that item while in transit. Once received, the item RMA is updated, but remains available for further coding of the type of problem, parts that failed, final resolution, etc. This data helps identify and eliminate design and process problems, which will ultimately increase customer satisfaction.

Throughout the entire return/repair process, providing up-to-date status on:

- Incoming units from customers
- Repair orders for returned units.
- Shipments of repaired or replacement units that are owed to customers.

🕼 RMA 1	
	RMA
RMA Number 80000001 - 01 RMA Date 1	/4/2021
Order # 20000001 - 02 - 01 - 0000	
Part ID 1100 Description	Portable Computer
Serial # Lot Number	
Customer ID BLNCPNT Customer Name	Balancepoint Technologies
Warranty Return Info Remarks Notes Part Details Picture	
Warranted 🔽	Original Price 2370.25
Labor Expires 2/3/2021	Material Expires 3/5/2021
Under Warranty Price	Out of Warranty Price
Repair 0	Repair 0
Replace 0	Replace 0
	v
1.	

Figure 15. Return Material Authorization tracks goods returned from customers.

The Warranty Tracking module allows you to:

- Provide up-to-date status on Warranty Part Data added to Part Sales Maintenance.
- Create Ship History flag for each part or update Ship History for all previous shipments.
- Visually manage RMAs from your desktop.
- Track RMAs through the entire repair and replacement process.
- RMA Maintenance tabbed dialog includes Warranty and Return Information as well as Failure Remarks, Notes, Part details, and picture association tabs.
- Process unplanned receipts directly from RMA form to stock for products returned under warranty.
- Create Replacement Shop Rework or Return Sales Orders directly from RMA form.

Coupling Return Material Authorization (RMA) capabilities—which help control the repair and replacement functions—with the ability to control and monitor costs gives you the necessary tools to keep service levels high and plan for future warranty liabilities.

### **Customers Summary**

Setting customer expectations and making and holding customer promises is critical to the success of your business. This process begins in the quoting/estimating process and continues through to the customer invoice. MAX customer facing modules help you manage those processes.
# **Demand Management**

Scheduling

Demand Management includes the management of open sales orders within customer quoted lead-times and forecast orders beyond that point and out to the cumulative manufacturing lead-time. Forecast orders are important for driving demand beyond your current customer orders. Failure to do so results in chronic material shortages.

### Independent Demand — Keep Up with Customer' Aggressive Demands

- Review Customer and Forecast orders online.
- Extensive filtering options let you select orders by Part ID, Current Due Date, Order Number, Planner ID, and User-definable fields.
- Powerful drill-down into Forecast Orders allows you to quickly view and edit detailed order information and add new independent demand orders.
- Quickly review and edit order due dates, quantities, and order status directly from the grid.
- Load forecast and customer orders from legacy systems.

### Scheduling

- **Demand Management** •
- Master Production Scheduling
- **Capacity Management** Ö
- **Planning Simulation** •

facility. In others, the raw demand (i.e., customer and forecast orders) are used. Where many organizations make a mistake is in not covering their cumulative lead-time adequately. If customer orders drop off after six weeks on a 16-week cumulative lead-time, then you have a 10-week planning problem. If not handled properly, purchasing is always expediting material at the last minute and shortages are abundant.

Rough-cut capacity planning can also be performed at the master scheduling level using orders that do not yet appear on the shop floor. This makes WIP much more manageable and provides the ability to match longer term plans to resource requirements.

Simulation suggests that alternate plans should be considered. Based upon the current plan, what would happen if customer demand increased x% (represented by a list of parts and quantities)?

Scheduling begins with Demand Management (i.e., how to interpret

the customer orders and forecasts across the time horizon

determined by cumulative lead-time). In some cases, a Master Production Schedule (MPS) is created to drive the manufacturing





Curtomer Order - 20000003020

Figure 1. Quickly review all Independent Demand Items

			Dates	
Order No. 1000000	Reference		Current	6/11/2020
			Current Promise	6/11/2020
Part Info Part ID 1000	Descri	ption Computer	Original	6/11/2020
1	ype M - Master Sched	ile Part +	Original Promise	6/11/2020
Quantities	Order Data		Lead Times	
	Status 2, Poloa	ed +	Manufacturing	5
Current 40	Status S-Trelea			
Current 40 Original 40	Rev A	Planner 000	Purchasing	d

Figure 2.	Forecast	demand	to create	customer	orders for a	ny
part finisl	hed good,	assembl	y or raw r	naterial		

Order	20000030201	Refer	rence 2000	00030201		Current	4/29/2020
						Current Promise	4/29/2020
Part Info Part ID 1100			Description	Portable Computer		Original Due	4/29/2020
	Туре М - М	faster Sche	dule Part	*		Original Promise	4/29/2020
Quantities —		Order Dat	a			Lead Times	
		Status	3 · Releas	ed	*	Manufacturing	5
Current	2						
Current Original	2	Rev	В	Planner 00	0	Purchasing	0

Figure 3. Customer orders only available in read only mode if Sales Order Processing is installed

Demand can be managed through multiple MAX planning strategies, including:

- Demand driven MRP Open customer and forecast orders will "drive" parts that are planned via Materials Requirements Planning.
- Master Production Scheduling Allow a "human" to decide on available information and build a production schedule to avoid the instability of customer and forecast demand patterns.
- Reorder Point –Do not forget we still have Re-Order Point (ROP) planning for those independent demand items with rather steady usage rates.

Match your planning with the type and pattern of demand. Understand how you are driving your manufacturing costs.

# Master Production Scheduling

Put everyone on the same page with the best information available.

- Forecast Orders
- Master Schedule Orders
- Capacity Management
- Available to Promise.
- Available to Forecast.
- Paperless Planning
- What If Simulations

Master Scheduling plans production, thereby creating a consistent and realistic production plan that drives all aspects of your manufacturing and purchasing operations. This will enable you to routinely satisfy your company's policies on customer service, production efficiency and inventory management. With Master Scheduling you will be certain that your plan is based on the best information available and that human schedulers have approved the plan and that everyone is working to the same plan. Create a schedule that makes sense to your production people yet meets customer demand with minimum instability.

Safety Stock	
0 5	
Bearder Point Issued MTD	8
0 Issued YTD	8
-l. Basedar Olu	
pie Neorder dig Sales MTD	8
U Sales YTD	8
Yield	
100	
10	
Supply Orders	
ATP ATF Date Qty Type St	Order Firm Reference
JO 20.00 20.00 02/13/2020 20.00 MS 3 3	200001
JO 40.00 40.00 02/27/2020 20.00 MS 3 3	300002
JU 60.00 60.00 03/12/2020 20.00 MS 1 3	JUUUU3 🔽
50.00 0.00 03/12/2020	
52.00 0.00 03/23/2020 00 73.00 00.00 03/25/2020 00.00 MC 1.0	000004
JU 72.00 20.00 03/26/2020 20.00 MS I 3 00 72.00 20.00 02/29/2020	J00004 💌
72.00 20.00 03/20/2020	
92.00 0.00 04/03/2020 20.00 MS 1 3	000005
00 112 00 20 00 04/23/2020 20 00 MS 1 3	000006
00 132.00 40.00 05/07/2020 20.00 MS 1 3	000007
132.00 0.00 05/07/2020	
00 152.00 20.00 05/21/2020 20.00 MS 1 3	000008
00 172.00 40.00 06/04/2020 20.00 MS 1 3	000009
<b>1</b> 72.00 0.00 06/11/2020	
00 192.00 20.00 06/18/2020 20.00 MS 1 3	000010
JO 212.00 40.00 07/02/2020 20.00 MS 1 3	000011
212.00 0.00 07/09/2020	
JO 232.00 20.00 07/16/2020 20.00 MS 1 3	000012
0 252.00 20.00 0771672020 20.00 MS 1 3	000012

Figure 4. Complete Supply and Demand picture with top down and bottom-up pegging



Figure 5. Graphically view project shortages differentiating between released and planned orders

Master Schedule Detail — Bucket less Demand and Supply Information

- View the entire time-phased supply and demand picture for a part.
- Intuitive display format is designed around the planner's job, simplifying use and training.
- Validate demand through single or multi-level pegging to the parent order.
- Accomplish time-phased rough-cut capacity planning with user-definable resources to plan work hours, capital, or work center requirements.
- Color coded projected available alerts the planner to actions required to prevent shortages.
- Store demand and supply data in an unlimited planning horizon.
- View the plan based on what is happening today, using extensive sort and filtering capabilities.
- Integrated with customer demand, forecast and schedule data for accurate scheduling by using "available to promise" and "available to forecast" logic.
- Maintain planning data online.

### Master Schedule Orders—Create Realistic Production Plans

🏷 S	Shop Or	der 1 - 3	0000020										1	= x
	Ord Num	300000	20 (N)	Туре	MS - Master Sc	hedule T	B	eference						
	Part ID	1000		Part Desc	Computer		C	ustomer Order						
	Status	3 · Rele	ased 🔹	Cur Qty	10	Order Option	s s	ched	Pri St	k				
	Cur Due	3/17/2	2020	Ext Qty	10	Create Ro	outing 0	I - Queue	- FG					
	Oria Due	0.117.1	2020	BalDue	10	Rework	R	ev Level	Priori	y				
	ong Due	3/1//	2020	Barbac	10									
	Lot/Seria	si		User Defined			P	anner ID						
	LUUJena	31		Coser Delined				00	🔽 Fi	rm				
	Lot			Key										
	Bill		Perial Allocation	Reference	A	lternate Code		Query	🕽 🛛 Blow Thro	ugh Pseudo				
ſ	/ Includ	le Status	Component Part ID	Descriptio	on Cur	Qty Bal Due	Cur Due	LT Offset	Qty Issued	Net Available	On Hand	Qty Per	Scrap	)
1	<b>V</b>	3	2100	System Unit		10.00 10.0	0 03/10/20	20 5.00	0.00	-9.00	1.00	1.00	Ó	.00
2	1	3	3000	Keyboard		10.00 10.0	0 03/10/20	20 5.00	0.00	34.00	44.00	1.00	0	.00
4		3	3100	<- Add more parts	here	10.00 10.0	0 03/10/20	20 5.00	0.00	40.00	55.00	1.00	U.	.00
		1											t.	•

Figure 6. Easily create demand for the component parts and resources providing a consistent and reliable product plan

The real power of using master scheduled orders is keeping them planned until it is time to start production. This plans for long lead-time lower-level parts without loading up work center queues. Other benefits include:

- Master Schedule at any level or multiple levels of the product structure.
- Preference allows you to automatically create corresponding master schedule orders during sales order entry.
- Create demand for the component parts and resources needed to build the master scheduled product, whether you manufacture the parts or purchase them, before the MS order is released.
- Yielded MPS adjusts the order quantity to compensate for expected loss so that enough product is started through the process.
- MRP manages balances the demand from the master schedule orders with the supply of materials required to meet that demand.
- Print routings and pick lists for master scheduled orders that have been released for manufacture.

### Order Navigator—Working with Manufacturing Orders

-Range					C Include Or	der Status ——		Include Order	Part Types -								
Select By	Part ID		-		🔽 <u>1</u> - Pla	nned		🔲 Purchase	d Parts								
Start	1000					oroved		V Manufac	ured Parts								
<u>o</u> ran						510100		i manarao	area r arte								
<u>E</u> nd	1000				<u> </u>	leased		C Subcontr	act Parts								
								🔲 Maintena	nce Objects								
							L		-9/3								
					<u>(</u>	luery											
Order Number	Туре	Арр	Rel	Firm	Ord Qty	Qty Due	Cur Due	Org Due	Start Date	Part ID	Description	Priority	Planner	Stock	Sched	Rev	Reference
30000001	MS	1	1	V	20.0000	20.0000	02/13/2020	02/13/2020	02/06/2020	1000	Computer	1	000	FG	Q	A	2
30000002	MS	1	1	<b>V</b>	20.0000	20.0000	02/27/2020	02/27/2020	02/20/2020	1000	Computer	8	000	FG	Q	A	×
30000003	MS			1	20.0000	20.0000	03/12/2020	02/02/2020	03/05/2020	1000	Computer	PLANNED	000	FG	Q	A	×
30000004	MS			<b>V</b>	20.0000	20.0000	03/26/2020	03/26/2020	03/19/2020	1000	Computer	PLANNED	000	FG	Q	A	×
30000005	MS			<b>V</b>	20.0000	20.0000	04/09/2020	04/09/2020	04/02/2020	1000	Computer	PLANNED	000	FG	Q	A	2
30000006	MS			V	20.0000	20.0000	04/23/2020	04/23/2020	04/16/2020	1000	Computer	PLANNED	000	FG	Q	A	7
30000007	MS			<b>V</b>	20.0000	20.0000	05/07/2020	05/07/2020	04/30/2020	1000	Computer	PLANNED	000	FG	Q	A	2
30000008	MS			V	20.0000	20.0000	05/21/2020	05/21/2020	05/14/2020	1000	Computer	PLANNED	000	FG	Q	A	2
30000009	MS			V	20.0000	20.0000	06/04/2020	06/04/2020	05/28/2020	1000	Computer	PLANNED	000	FG	Q	A	2 
30000010	MS			V	20.0000	20.0000	06/18/2020	06/18/2020	06/11/2020	1000	Computer	PLANNED	000	FG	Q	A	2
30000011	MS			V	20.0000	20.0000	07/02/2020	07/02/2020	06/25/2020	1000	Computer	PLANNED	000	FG	Q	A	7
	MS			V	20.0000	20.0000	07/16/2020	07/16/2020	07/09/2020	1000	Computer	PLANNED	000	FG	Q	A	1
30000012	MS			V	20.0000	20.0000	07/30/2020	07/30/2020	07/23/2020	1000	Computer	PLANNED	000	FG	Q	A	2
30000012 30000013	1.0.0			V	20.0000	20.0000	08/13/2020	08/13/2020	08/06/2020	1000	Computer	PLANNED	000	FG	Q	A	
30000012 30000013 30000014	MS						0010710000	00/07/0000	00/200/2020	1000	Computer	DI ANNED	000	EG	0	4	
30000012 30000013 30000014 30000015	MS MS			V	20.0000	20.0000	08/2//2020	08/2//2020	08/20/2020	1000	Compater	I DAMADD	000	ru	ų	A	

Figure 7. Easily maintain all aspects of manufactured orders

The Order Navigator is the "gateway" to your production floor. From this window, planners decide on what orders to send to production.

- Display shop orders, master schedule orders and MRP-generated orders in a spreadsheet grid for easy processing.
- Select only the orders you want to view with extensive filtering and date range capabilities.
- Review, maintenance, approval, and release of manufacturing orders can be done completely online without printing a single piece of paper.
- Automatically calculates operation start and due dates based on MRP planned order due dates.
- Flexible record selection criteria allow approval and release of orders in bulk.
- Drill down on cells within the grid to view more detailed information.
- Optionally freeze (i.e., firm plan) operation dates to allow for your unique shop schedule (i.e., physical inventory periods, plant shut down, etc.) or supplier shutdowns.

### Inquiries—Instant Visibility

### Schedule Summary

Part	ID	Par	t Type						
100	0	M	- Master Sch	edule Part	Ψ.	(Bucl	keting ———		
Desc	cription 1	On	Hand Qty	Non-I	Vet Qty	0	Weekly		
Com	nputer			0		10			
Desc MRF	pription 2 P Flag 📝		nclude / <u>A</u> pproved C	)rders 🔲 Pļa	anned Orders		Quarterly		
2	1	Past Due	3/1/2020	4/1/2020	5/1/2020	6/1/2020	7/1/2020	8/1/2020	9/1/2020
1	Forecast Demand	60.00	0.00	40.00	40.00	40.00	40.00	40.00	65.00
2	Customer Demand	0.00	8.00	0.00	0.00	0.00	0.00	0.00	0.00
3	Dependent Demand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Total Demand	60.00	8.00	40.00	40.00	40.00	40.00	40.00	65.00
5	Scheduled Receipt	40.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Planned Scrap	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Net Available	-20.00	-28.00	-68.00	-108.00	-148.00	188.00	-228.00	-293.00
8	Planned Orders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Available to Promise	-20.00	-293.00	-293.00	-293.00	-293.00	-293.00	-293.00	-293.00
9									

Figure 8. Schedule summary – You choose the bucket size.

• Analyze supply and demand information in summarized user-definable time buckets. Compare supply against forecast demand (ATF) and against actual customer and dependent demand (ATP) to optimize inventory levels.

### **Order Shortage**

)rder <u>N</u>	umber		Order Qty				Order Type	
300000	003				2	20	MS - Master Sched	di –
Part ID			Part Desc	ription			Order Status	
1000			Compute	r			1 - Planned	×
	Part ID	Description	On Hand	Bequired	Available	BQ Status		
1	2100	System Unit	1.00	20.00	-19.00	1		
2	3000	Keyboard	44.00	20.00	24.00	1		
3	3100	Monitor	55.00	20.00	35.00	1		

Figure 9. Order shortage inquiries stops incomplete orders.

• Quickly review and verify component parts, resources, and tool availability for orders, with shortages easily identifiable

# **Capacity Management**

Capacity Management at the Master Production schedule is referred to as Rough-cut Capacity. Its purpose is to match the demand on resources generated from the master schedule with the supply of those same resources. There are many ways to accomplish this with MAX including:

- Resource parts for critical resources
- Resource BOMs calling the quantity of each resource part.
- Resource summary reports to compare the demand for and supply of resources across time, where the period is governed by your lead-time to change that resource level (i.e., hire and train the next person)
- Custom summary reports to look at planned hours for each critical resource by work center across time.

Part	ID	Part Type						
LAE	OR - ASSY	R - Reso	urce	Ŧ		-Bucketing -		
)es	cription 1	On Hand	Qty	Non-Net Qty		🔿 Weekl	,	
Ass	embly Labor		0		0	<u> </u>	×	
)es	cription 2					) <u>M</u> onthl	y	
		Include				O Quarte	rly	
			oved Orders	Planned C	)rders			
4RF	P Flag 🔽							
	7	Past Due	3/1/2020	4/1/2020	5/1/2020	6/1/2020	7/1/2020	8/1/2020
1	Forecast Demand	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	Customer Demand	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	Dependent Demand	100.00	12.00	94.00	71.00	71.00	83.00	71.00
4	Total Demand	100.00	12.00	94.00	71.00	71.00	83.00	71.00
5	Scheduled Receipt	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Planned Scrap	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Net Available	100.00	-112.00	-206.00	-277.00	-348.00	-430.00	-501.00
8	Planned Orders	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Available to Promise	-511.00	-511.00	-511.00	-511.00	-511.00	-511.00	-511.00
9								

Figure 10. Capacity Management for direct labor

Capacity Management at the Shop Floor Execution level (i.e., released work) is concerned with supply and demand for each work center, as well as how orders compete for time in that work center (i.e., priority).

# **Planning Simulation**

Make Promises You Can Deliver!

Through excellent design and reuse of the fundamental planning algorithms, the Planning Simulation option adds Available to Promise (ATP) to the MAX core functionality with no added implementation costs. We have embedded the Planning Simulation option in the MAX Master Scheduling and Sales Order Processing modules for carrying out "what if" ATP (available-to-promise) scenarios.

equest Date 3/17/2020	Run Simulation				On H	and II 🔿 Surpl	lus 🔘 Shorta	ge Part Types -	ake O Buy	Part ID OMPN	Run Simulation	n Excluding Ord	ers			
		Simi	lated Dem	and				<b>P</b>		Af	fected Orders					
Part 1000 1100	Create Ord	ler Quantit 20 10 0	y .00 Computer .00 Portable Co .00	Descriptio imputer	n	CPLT 05/04/2020 05/04/2020	ATP 03/31/2020 04/14/2020	Revenue \$65900.00 \$23703.00	Include       1       2       3	Assembly	Sales Order	Order	Date	Customer	Quantity	Revenue
			.00 .00 .00						4 5 6							
			Conso	lidated D	emand / P	rojected S	hortages				6 6 🗙 🖂					
Part	Description Ne	Required	Qty. OH	Proj. OH	Proj. Supply	Proj. Date	Cost	Ext. Cost Start I	ate Lead Time Availa	ble Date Cum. I	TO Parent ATP	Planner ID	Buyer	Vendor ID	Manufacturer	MPN
2100	Lomputer	20.00	1.00	12.00	-8.00	05/04/2020	1548.67	12389.38 03/17/2	U2U 5 U5/U4/	/2020	0 05/04/2020	000	000	-		
2100	System Unix	0.00	1.00	-33.00	-47.00	03/24/2020	000.67	40216.60 03/17/2	020 5 03/24/	/2020	10 03/31/2020	000	000	010		
2200	Cabinet	0.00	3.00	40.00	32.00	03/31/2020	22.00	176 24 02/10/2	020 10 03/03/	/2020	10 03/17/2020	000	000	010		02266
2500	Matal	25.00	201 50	201 60	Contract of the second s								010	1002	Hotblaham Sta	0.00200
3500	Metal Mother Roard	25.00	281.50	281.50	256.50	03/24/2020	409.77	2367.54 02/25/2	020 10 02/18/	/2020	10 03/17/2020	000	010	002	Bethlehem Ste	
3500 2300 2300B	Metal Mother Board PCB	25.00 18.00	281.50 10.00 30.00	281.50 12.22 94.78	-5.78	03/24/2020	409.77	2367.54 02/25/2	020 10 02/18/ 020 5 03/03/ 020 20 02/25/	/2020	10 03/17/2020	000	010 000 010	002	Bethlehem Ste	
3500 2300 2300B 3400	Metal Mother Board PCB CPU	25.00 18.00 6.00	281.50 10.00 30.00 40.00	281.50 12.22 94.78 44.44	206.00 -5.78 88.78 38.44	03/24/2020 03/24/2020 04/14/2020 03/24/2020	409.77 110.00 110.00	2367.54 02/25/2 9765.56 01/28/2 4228.89 02/18/2	020 10 02/18 020 5 03/03 020 20 02/25 020 5 02/25	/2020 /2020 /2020	10 03/17/2020 10 03/17/2020 15 03/17/2020 15 03/17/2020	000	010 000 010 010	002	Bethlehem Ste	PT-500SX
3500 2300 2300B 3400 3700	Metal Mother Board PCB CPU Memory	25.00 18.00 6.00 6.00 12.00	281.50 10.00 30.00 40.00 65.00	281.50 12.22 94.78 44.44 161.61	256.50 5.78 88.78 38.44 149.61	03/31/2020 03/24/2020 04/14/2020 03/24/2020 03/24/2020	409.77 110.00 110.00 110.00	2367.54 02/25/2 9765.56 01/28/2 4228.89 02/18/2 16456.90 02/18/2	020 10 02/18 020 5 03/03 020 20 02/25 020 5 02/25 020 5 02/25	/2020 /2020 /2020 /2020 /2020	20 03/17/2020 10 03/17/2020 15 03/17/2020 15 03/17/2020 15 03/17/2020	000 000 000 000 000	010 000 010 010 010	002	Intel Kingston	PT-500SX KG-256K
3500 2300 2300B 3400 3700 3200	Metal Mother Board PCB CPU Memory Floopy Disk	25.00 18.00 6.00 6.00 12.00 26.00	281.50 10.00 30.00 40.00 65.00 0.00	281.50 12.22 94.78 44.44 161.61 80.00	256.50 5.78 88.78 38.44 149.61 54.00	03/24/2020 04/14/2020 03/24/2020 03/24/2020 03/24/2020 03/17/2020	409.77 110.00 110.00 110.00 80.00	2367.54 02/25/2 9765.56 01/28/2 4228.89 02/18/2 16456.90 02/18/2 4320.00 02/13/2	020 10 02/18 020 5 03/03 020 20 02/25 020 5 02/25 020 5 02/25 020 5 02/25	/2020 /2020 /2020 /2020 /2020 /2020	20 03/17/2020 10 03/17/2020 15 03/17/2020 15 03/17/2020 15 03/17/2020 10 02/27/2020	000 000 000 000 000 000 000	010 000 010 010 010 010 010	002 007 006 005 007	Bethlehem Ste Intel Kingston	PT-500SX KG-256K
3500 2300 2300B 3400 3700 3200 3250	Metal Mother Board PCB CPU Memory Floppy Disk 1.44 M Floppy	25.00 18.00 6.00 12.00 26.00 0.00	281.50 10.00 30.00 40.00 65.00 0.00 120.00	281.50 12.22 94.78 44.44 161.61 80.00 40.00	256.50 5.78 88.78 38.44 149.61 54.00 40.00	03/24/2020 03/24/2020 03/24/2020 03/24/2020 03/24/2020 03/17/2020 03/24/2020	409.77 110.00 110.00 110.00 80.00 55.00	2367.54 02/25/2 9765.56 01/28/2 4228.89 02/18/2 16456.90 02/18/2 4320.00 02/18/2 2200.00 02/25/2	10         10         12/18.           020         5         03/03.           020         20         02/25.           020         5         02/25.           020         5         02/25.           020         5         02/25.           020         0         02/13.           020         5         03/03.	/2020 /2020 /2020 /2020 /2020 /2020 /2020	20 03/17/2020 10 03/17/2020 15 03/17/2020 15 03/17/2020 15 03/17/2020 10 02/27/2020 10 03/17/2020	000 000 000 000 000 000 000 000 000	010 000 010 010 010 010 010 010	002 007 006 005 007 006 007 006	Bethlehem Ste Intel Kingston	PT-500SX KG-256K 350BL
3500 2300 23008 3400 3700 3200 3250 3250 3275	Metal Mother Board PCB CPU Memory Floppy Disk 1.44 M Floppy Custom Software	25.00 18.00 6.00 12.00 26.00 0.00 0.00	281.50 10.00 30.00 40.00 65.00 0.00 120.00 0.00	281.50 12.22 94.78 44.44 161.61 80.00 40.00 -80.00	206.50 5.78 88.78 38.44 149.61 54.00 40.00 -80.00	03/24/2020 03/24/2020 04/14/2020 03/24/2020 03/24/2020 03/17/2020 03/24/2020 03/17/2020	409.77 110.00 110.00 110.00 80.00 55.00 50.00	2367.54 02/25/2 9765.56 01/28/2 4228.89 02/18/2 16456.90 02/19/2 4320.00 02/19/2 2200.00 02/25/2 4000.00 03/17/2	020         10         02/16           020         5         03/03,           020         20         02/25,           020         5         02/25,           020         5         02/25,           020         5         02/25,           020         0         02/17,           020         5         03/03,           020         5         03/03,           020         5         03/03,           020         0         03/17,	/2020 /2020 /2020 /2020 /2020 /2020 /2020 /2020	20 03/17/2020 10 03/17/2020 15 03/17/2020 15 03/17/2020 15 03/17/2020 10 02/27/2020 10 03/17/2020 10 03/11/2020	000 000	010 000 010 010 010 010 010 010 010	002 007 006 005 007 006 007	Intel Kingston Verbatim	PT-500SX KG-256K 350BL
3500 2300 23008 3400 3700 3200 3250 3250 3275 3600	Metal Mother Board PCB CPU Memory Floppy Disk 1.44 M Floppy Custom Software 24V Power Supp	25.00 18.00 6.00 12.00 26.00 0.00 0.00 18.00	281.50 10.00 30.00 40.00 65.00 0.00 120.00 0.00 50.00	281.50 12.22 94.78 44.44 161.61 80.00 40.00 -80.00 50.00	206,500 5,778 88,78 38,44 149,61 54,00 40,00 60,00 32,00	03/24/2020 03/24/2020 03/24/2020 03/24/2020 03/24/2020 03/17/2020 03/24/2020 03/17/2020 03/31/2020	409.77 110.00 110.00 110.00 80.00 55.00 50.00 165.00	110:54 02/25/7 9765:56 01/28/7 4228:89 02/18/7 4320:00 02/18/7 4320:00 02/13/7 2200:00 02/25/7 4000:00 03/17/7 5280:00 02/18/7	10         10         10/18           020         5         03/03           020         20         02/25           020         5         02/25           020         5         02/25           020         5         02/25           020         5         02/25           020         0         02/13           020         5         03/03           020         0         03/03           020         0         03/03           020         0         03/03           020         0         03/03           020         10         03/03	/2020 /2020 /2020 /2020 /2020 /2020 /2020 /2020 /2020	20 03/17/2020 10 03/17/2020 15 03/17/2020 15 03/17/2020 15 03/17/2020 10 02/27/2020 10 03/17/2020 10 03/17/2020 10 03/17/2020	000 000 000 000 000 000 000 000 000	010 000 010 010 010 010 010 010 010 010	002 007 006 005 007 006 007 006 007 009	Intel Kingston Verbatim	PT-500SX KG-256K 350BL ILP-3600
3500 2300 23008 3400 3200 3250 3250 3275 3600 3000	Metal Mother Board PCB CPU Memory Floppy Disk 1.44 M Floppy Custom Soltware 24V Power Supp Keyboard	25.00 18.00 6.00 12.00 26.00 0.00 0.00 18.00 8.00	281.50 10.00 30.00 40.00 65.00 0.00 120.00 0.00 50.00 44.00	281.50 12.22 94.78 44.44 161.61 80.00 40.00 -80.00 50.00 25.00	206,500 5,783 88,78 38,44 149,61 54,00 40,00 80,000 32,00 17,00	03/24/2020 03/24/2020 03/24/2020 03/24/2020 03/24/2020 03/17/2020 03/24/2020 03/24/2020 03/31/2020 03/24/2020	409.77 110.00 110.00 110.00 80.00 55.00 55.00 165.00 110.00	116.54 02/25/7 9765.56 01/28/7 4228.89 02/18/7 16456.90 02/18/7 4320.00 02/13/7 2200.00 02/25/7 4000.00 03/17/7 5280.00 02/18/7 1870.00 03/13/7	10         10         102/18.           120         5         102/19.           120         20         12/25.           120         5         102/25.           120         5         102/25.           120         5         102/25.           120         5         102/25.           120         5         102/25.           120         5         103/13.           120         5         103/13.           120         10         103/03.           120         5         103/13.	/2020 /2020 /2020 /2020 /2020 /2020 /2020 /2020 /2020 /2020 /2020	20 03/17/2020 10 03/17/2020 15 03/17/2020 15 03/17/2020 10 02/27/2020 10 03/17/2020 10 03/17/2020 10 03/17/2020 5 03/17/2020	000 000	010 000 010 010 010 010 010 010 010 010	002 007 006 005 007 006 007 006 007 009 004	Intel Kingston Verbatim Illinois Power Acer	PT-500SX KG-256K 350BL ILP-3600 6511-TW
3500 2300B 3400 3700 3250 3275 3600 3000 3100	Metal Mother Board PCB CPU Hemory Floppy Disk 1.44 M Floppy Custom Software 24V Power Supp Keyboard Monitor	25.00 18.00 6.00 12.00 26.00 0.00 0.00 18.00 8.00 8.00	281.50 10.00 30.00 40.00 65.00 0.00 120.00 0.00 50.00 44.00 55.00	281.50 12.22 94.78 44.44 161.61 80.00 40.00 -80.00 50.00 25.00 40.00	206.30 5.78 88.78 38.44 149.61 54.00 40.00 40.00 32.00 17.00 32.00	03/31/2020 03/24/2020 04/14/2020 03/24/2020 03/24/2020 03/24/2020 03/24/2020 03/17/2020 03/31/2020 03/31/2020 03/31/2020	409,77 110,00 110,00 110,00 55,00 55,00 165,00 110,00 550,00	2367 54 02/25/7 9765 56 01/28/2 9765 56 01/28/2 4228 89 02/18/7 4220 00 02/18/7 4320 00 02/18/7 4320 00 02/18/7 4000 00 03/17/7 5280 00 02/25/7 1870 00 03/03/7 17600 00 02/25/7	10         10         10         12/16           120         10         10/276         10/276           120         20         10         12/25           120         5         12/25         10/27           120         5         12/25         10/27           120         5         12/25         10/27           120         0         0/2/13         10/27           120         0         0/2/13         10/27           120         0         0/2/13         10/27           120         0         0/2/13         10/27           120         0         0/2/13         10/27           120         0         0/2/13         10/27           120         10         0/2/10         10/27           120         10         0/2/10         10/27	/2020 /2020 /2020 /2020 /2020 /2020 /2020 /2020 /2020 /2020 /2020 /2020	20 03/17/2020 10 03/17/2020 15 03/17/2020 15 03/17/2020 10 02/27/2020 10 03/17/2020 10 03/17/2020 10 03/17/2020 5 03/17/2020 5 03/17/2020	000 000 000 000 000 000 000 000 000 00	010 000 010 010 010 010 010 010 010 010	002 007 006 005 007 006 007 006 007 009 009 004 008	Intel Intel Verbatim Illinois Power Acer Optiquest	PT-500SX KG-256K 350BL ILP-3600 6511-TW V75
3500 2300 23008 3400 3200 3250 3275 3600 3000 3100 1100	Metal Mother Board PCB CPU Memory Floppy Disk 1.44 M Floppy Custom Software 24V Power Supp Keyboard Monitor Portable Comput	25.00 18.00 6.00 12.00 26.00 0.00 0.00 18.00 8.00 8.00 10.00	281.50 10.00 30.00 40.00 65.00 0.00 120.00 50.00 50.00 44.00 55.00 0.00	281.50 12.22 94.78 44.44 161.61 80.00 40.00 -80.00 50.00 25.00 40.00 -2.00	206.30 5.78 88.78 38.44 149.61 54.00 40.00 -80.00 32.00 17.00 32.00 -12.00	03/31/2020 03/24/2020 03/24/2020 03/24/2020 03/24/2020 03/17/2020 03/17/2020 03/17/2020 03/24/2020 03/24/2020 03/24/2020 03/24/2020	409.77 110.00 110.00 80.00 55.00 56.00 165.00 110.00 550.00 110.00	2367 54 02/25/3 9765 56 01/28/3 4228 83 02/18/3 18456 50 02/18/3 4320 00 02/13/2 2200 00 02/25/3 4000 00 03/17/3 5280 00 03/17/3 1870 00 03/12/3 17600 00 03/225/2 17921.82 03/17/3	020         10 02/15           020         5 03/03           020         20 02/25           020         5 02/25           020         5 02/25           020         0 02/13           020         5 03/03           020         5 03/03           020         0 02/13           020         0 03/17           020         10 03/03           020         5 03/10           020         10 03/10           020         10 03/10           020         10 03/10           020         10 03/10	/2020 /2020 /2020 /2020 /2020 /2020 /2020 /2020 /2020 /2020 /2020 /2020 /2020	20 03/17/2020 10 03/17/2020 15 03/17/2020 15 03/17/2020 10 02/27/2020 10 03/17/2020 10 03/17/2020 10 03/17/2020 5 03/17/2020 5 03/17/2020 0 05/04/2020	000 000 000 000 000 000 000 000 000 00	010 000 010 010 010 010 010 010 010 010	002 007 006 005 007 006 007 009 009 004 008	Bethlehem Ste Intel Kingston Verbatim Hinois Power Acer Optiquest	PT-5005X KG-256K 350BL ILP-3600 6511-TW V75
3500 2300 3400 3200 3200 3250 3275 3600 3000 3100 1100 2400	Metal Mother Board PCB CPU Henory Floppy Disk 1.44 M Floppy Custom Software 24V Power Supp Keyboard Monitor Pottable Comput Pottable System	25.00 18.00 6.00 12.00 26.00 0.00 18.00 8.00 8.00 10.00 10.00	281.50 10.00 30.00 40.00 65.00 0.00 120.00 0.00 50.00 44.00 55.00 0.00 0.00 0.	281.50 12.22 94.78 44.44 161.61 80.00 40.00 -80.00 50.00 25.00 25.00 -2.00 -2.00 -5.00	206.30 5.78 88.78 38.44 149.61 54.00 40.00 90.00 32.00 17.00 32.00 17.00 32.00 12.00 15.00	03/31/2020 03/24/2020 03/24/2020 03/24/2020 03/17/2020 03/17/2020 03/17/2020 03/24/2020 03/21/2020 03/31/2020 03/31/2020 05/04/2020 03/24/2020	409.77 110.00 110.00 80.00 55.00 50.00 1165.00 110.00 550.00 1433.48 1379.98	176.57.61 (2):225/3 9765.56 (1):28/3 9765.56 (1):28/3 4228.88 (0):218/3 14965.90 (0):218/3 2200.00 (0):218/3 2200.00 (0):218/3 4000.00 (0):218/3 1870.00 (0):225/3 1870.00 (0):225/3 1870.00 (0):225/3 1870.00 (0):225/3 1970.00 (0):225/3 2070.00 (0):225/3 1970.00 (0):225/3 2070.00 (0)	10         02/0         10	2020 2020	20 03/17/2020 10 03/17/2020 15 03/17/2020 15 03/17/2020 10 02/27/2020 10 03/17/2020 10 03/	000 000 000 000 000 000 000 000 000 00	010 000 010 010 010 010 010 010 010 010	002 007 006 005 007 006 007 009 009 004 008	Bethlehem Ste Intel Kingston Verbatim Hinois Power Acer Optiquest	PT-5005X KG-256K 350BL ILP-3600 6511-TW V75
3500 2300 23008 3400 3700 3200 3275 3600 3000 3100 1100 2400 2400	Metal Mother Board PCB CFU Memory Floppy Disk 1.44 M Floppy Custom Software 24V Power Supp Keyboard Monitor Portable Comput Portable Cabinet	25.00 18.00 6.00 12.00 26.00 0.00 18.00 8.00 8.00 8.00 10.00 10.00 10.00	281.50 10.00 30.00 40.00 65.00 0.00 120.00 50.00 44.00 55.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	281.50 12.22 94.78 44.44 161.61 80.00 40.00 -80.00 50.00 25.00 40.00 -2.00 -5.00 0.00	258.30 25,78 88,78 38,44 149,61 54,00 40,00 40,00 32,00 17,00 32,00 17,00 32,00 17,00 32,00 17,00 32,00 17,00 32,00 17,00 32,00 17,00 12,000 12,00 14,00	03/31/2020 03/24/2020 03/24/2020 03/24/2020 03/24/2020 03/24/2020 03/24/2020 03/24/2020 03/21/2020 03/31/2020 03/24/2020 03/24/2020 03/24/2020 03/24/2020 03/24/2020	409.77 110.00 110.00 55.00 55.00 165.00 110.00 550.00 1453.00 1493.48 1379.98 76.22	176.54 02/25/3 9765 56 01/28/3 4228 89 02/18/3 4320 00 02/18/3 4320 00 02/18/3 4320 00 02/18/3 4300 00 02/18/3 4300 00 02/18/3 4000 00 02/18/3 4000 00 02/18/3 1870 00 02/25/3 1870 00 00 02/25/3 1870 00 00 00 00 00000000000000000000000	10         10<	2020 2020	20 09/17/2020 10 09/17/2020 15 03/17/2020 15 03/17/2020 10 02/27/2020 10 03/17/2020 10 03/17/2020 10 03/17/2020 5 03/17/2020 5 03/17/2020 5 03/17/2020 5 03/17/2020 0 05/04/2020 10 04/14/2020	000 000 000 000 000 000 000 000 000 00	010 000 010 010 010 010 010 010 010 010	002 007 006 007 007 007 007 009 007 009 004 008	Bethlehem Ste Intel Kingston Verbatim Hlinois Power Acer Optiquest	PT-500SX KG-256K 350BL ILP-3600 6511-TW V75
3500 2300 3400 3700 3200 3250 3275 3600 3000 3100 1100 2400 2500 3900	Metal Mother Board PCB CPU Memory Floppy Disk 1.44 M Floppy Custom Software 24/ Power Supp Custom Software 24/ Power Supp Potable Comput Potable Comput Potable Context Potable Context Potable Noritor	25.00 18.00 6.00 12.00 26.00 0.00 0.00 18.00 8.00 8.00 10.00 10.00 10.00 10.00 10.00	281.50 10.00 30.00 40.00 65.00 0.00 120.00 50.00 44.00 55.00 0.00 0.00 0.00 0.00 19.00	281.50 12.22 94.78 44.44 161.61 80.00 40.00 90.00 50.00 25.00 40.00 -2.00 -5.00 0.00 19.00	256.30 2578 88.78 38.44 149.61 54.00 40.00 -80.00 32.00 17.00 32.00 -12.00 -15.00 -10.00 9.00	03/24/2020 04/14/2020 03/24/2020 03/24/2020 03/24/2020 03/17/2020 03/17/2020 03/17/2020 03/17/2020 03/24/2020 03/24/2020 03/24/2020 03/24/2020 03/24/2020 03/21/2020 03/31/2020	409.77 110.00 110.00 90.00 55.00 55.00 165.00 110.00 550.00 110.00 550.00 1433.48 1379.98 76.22 220.00	10.54 02/25/3 2367.54 02/25/3 2765.56 01/28/3 422.88 02/18/3 422.89 02/18/3 422.80 00 02/13/3 2200.00 02/25/3 4000.00 02/15/3 5280.00 02/18/3 1870.00 03/03/3 1792.18 03/17/7 20699.77 03/17/7 782.19 03/17/7 7980.00 02/18/3	0.00         10 02/16           020         5 03/03           020         20 02/25           020         5 02/25           020         5 02/25           020         5 02/25           020         5 03/03           020         5 03/03           020         5 03/03           020         5 03/03           020         5 03/03           020         5 03/03           020         10 03/03           020         5 05/04           020         5 05/04           020         5 03/04           020         5 03/04           020         5 03/04           020         5 03/04           020         5 03/04           020         5 03/04           020         10 03/03           020         10 03/04           020         10 03/04	2020 2020	20 091772020 10 091772020 15 09172020 15 09172020 10 09272020 10 09272020 10 093172020 10 093172020 10 093172020 10 093172020 10 093172020 0 05/04/2020 0 05/04/2020 10 04/14/2020 10 03/17/2020	000 000 000 000 000 000 000 000 000 00	010 000 010 010 010 010 010 010 010 010	002 007 006 005 007 007 009 004 008 008	Bethlehem Ste Intel Kingston Verbatim Illinois Power Acer Optiquest	PT-500SX KG-256K 350BL ILP-3600 6511-TW V75 V50
3500 2300 3400 3700 3220 3250 3275 3600 3000 3100 1100 2400 2500 2500 3900 4100	Metal Mother Board PCB CPU Mencey Floppy Disk 1.44 N Floppy Custom Software 24V Power Supp Keyboard Monitor Potable Comput Potable Costnet Potable Costnet Potable Costnet Potable Costnet Potable Monitor	25.00 18.00 6.00 6.00 12.00 26.00 0.00 0.00 18.00 8.00 10.00 10.00 10.00 10.00 10.00 10.00	281.50 10.00 30.00 40.00 65.00 0.00 120.00 50.00 44.00 44.00 55.00 0.00	281.50 12.22 94.78 44.44 161.61 80.00 -8	258.30 2578 88.78 38.44 149.61 54.00 40.00 -80.00 17.00 32.00 -17.00 32.00 -12.00 -12.00 -10.00 9.00 -10.00	03/31/2020 03/24/2020 03/24/2020 03/24/2020 03/17/2020 03/17/2020 03/17/2020 03/17/2020 03/17/2020 03/24/2020 03/24/2020 03/31/2020 03/31/2020 03/31/2020	409.77 110.00 110.00 80.00 55.00 165.00 110.00 110.00 550.00 145.	10.5 10.2 25/3 2367 54 02.25/3 9765 56 01.28/3 428.88 02.18/3 16456.90 02.218/3 4302 00 02.213/3 4302 00 02.213/3 4000 00 03/17/3 5280.00 02.218/3 17600.00 03/03/17/3 2069.97 03/17/7 2069.97 03/17/7 2069.97 03/17/3 2069.97 03/17/3 2069.97 03/17/3 2069.97 03/17/3 2069.00 03/17/3	0.00         10 02/18           020         5 03/03           020         20 02/25           020         5 02/25           020         5 02/25           020         5 02/25           020         5 02/25           020         5 03/03           020         5 03/03           020         5 03/03           020         5 03/03           020         5 03/03           020         5 03/04           020         5 05/04           020         5 05/04           020         10 03/31           020         10 03/31           020         10 03/31           020         10 03/31           020         5 03/24	2020 2020	20 0917/2020 10 0917/2020 15 0917/2020 15 0917/2020 15 0917/2020 10 0917/2020 10 0917/2020 10 0917/2020 5 0917/2020 5 0917/2020 5 0917/2020 5 09317/2020 10 04/14/2020 10 04/17/2020 10 04/17/2020	000 000 000 000 000 000 000 000 000 00	010 000 010 010 010 010 010 010 010 010	002 007 006 005 007 006 007 006 007 009 004 008 008 008 008	Bethlehem Ste Intel Kingston Verbatim Illinois Power Acer Optiquest Optiquest Conner	PT-500SX KG-256K 350BL ILP-3600 6511-TW V75 V50 SX-1G

Figure 11. Run a Planning Simulation to Display Projected Surpluses and Shortages based upon Simulated Demand.

Planning Simulation provides your sales force with an easy-to-use tool that answers customers' most frequently asked question: "When can I have it?"

- Quick and easy to use, get an ATP date in seconds with the "click of a button."
- Create "what if scenarios" without using complex spreadsheets.
- Simulate actual demand using real parts and existing MRP conditions without affecting current WIP.
- Provide accurate ATP dates directly to Sales Order Entry.
- View Part Lead Times directly on the Consolidated Demand Grid.
- Salespeople can reuse MRP data without changing MRP data.
- "Seal the Deal" by creating a Quote or Sales Order based on the projected ATP.

With Planning Simulation, you can...

- Improve customer communication.
- Simulate demand quantities.
- Project on-hand balances
- Highlight shortages and surpluses.
- Display projected ATP dates.
- Create "what if" scenarios.
- Re-use MRP data without overwriting it.

Planning Simulation Options include:

- Select to Display Surpluses, Shortages or Both
- Select to Include Purchased, Manufactured Parts, or Both
- Exclude or Include Planned Orders and Requirements

- Choose to Display Demand ONLY if Net Required > 0.
- Choose to Exclude Forecast Orders at the Simulated Level

Planning Simulation Display Highlights:

- **Green:** Items may be promised to ship by the displayed ATP date.
- Yellow: Warns Sales to confirm current shop workload before promising availability.
- Red: Indicates No Part Availability on the displayed ATP date, based on current supply.

The MAX Planning Simulation Option adds Available-to-Promise Date visibility to the core MAX Master Scheduling and Sales Order Processing modules without additional implementation cost. This easy-to-use design provides your sales force the opportunity to project product availability based upon simulated customer demand and real time MRP data without impacting WIP.

# **Scheduling Summary**

Creating a realistic and stable schedule that meets all expected demand is a "cheap" secret to successfully managing your business. MAX ERP provides the tools to properly capture and schedule independent demand so that the power of MRP can plan the rest. Under the watchful eye of your planners, that schedule can be balanced with your capacity to maximize successful completion.

# Production

The Production area is concerned with executing the schedule, mostly through the management of shop orders and is focused on the level and control of Work in Process (WIP). Operation of the Shop Floor Execution module is the focus here. Load, queue and backlog analysis by critical work center and short-term priority and capacity planning and key tasks. As delays are encountered on the floor, Alternate Processes may be utilized, as so can, subcontract services.

For internal work, labor may be tracked in many ways (i.e., directly in SFE, in the Labor Tracking module, or the MAX Data Collection System). Lean Manufacturing practices should also be considered in this area. This can show up as repetitive manufacturing, self-directed work cells, Kanban systems, etc. LM often makes ERP easier.

### Production

- Shop Floor Execution
- Priority Planning & Control
- Alternate Processes
- Subcontract Services
- Labor Tracking



# **Shop Floor Execution**

Create shop orders, track Work-In-Process (WIP), maintain work center information and analyze shortages and backlogs.

- Shop Orders
- Routings
- Pick Lists
- Capacity/Priority Planning
- Component Scrap
- Work Center Management
- Standard Routing Notes

Shop Floor Execution lets you create shop orders, track WIP, maintain work center information and analyze shortages and backlogs. With Shop Floor Execution in place, you will quickly realize increased labor efficiency, better machine utilization, less downtime, reliable capacity planning and more predictable overtime scheduling.

#### Shop Order 2 - 30000003 x Reference Ord Num 30000003 Туре MS - Master Schedule Customer Order Part ID 1000 Part Desc Computer Order Options Cur Qty 3 · Released 20 Status Sched Pri Stk Create Bill FG Q - Queue Cur Due 3/12/2020 Ext Qty 20 Create Routing Rev Level Priority **Bal Due** 20 Orig Due 2/2/2020 PLANNED А Planner ID -Lot/Seria User Defined 000 V Firm Lot Kev Reference Query 🔽 Blow Through Pseudo Alternate Code Bill Routing Subcontract Include Status Component Part ID Description Cur Qty Bal Due Due Cur Due LT Offset Qty Issued Shortage On Hand Qty Per Manufacturer 20.00 03/05/2020 5.00 0.00 -48.00 1.00 1.00 2100 Sustem I Init 20.00 1.00 Acer 20.00 20.00 03/05/2020 24.00 44.00 3000 5.00 0.00 2 Keyboard 35.00 3100 Monito 20.00 20.00 03/05/2020 5.00 0.00 55.00 1.00 Optiques ¥

### Shop Orders—Increase Labor Efficiency and On-time Deliveries

Figure 1. Manage all aspects of a shop order, including order bill and routing information, with an easy to use and intuitive dialog.

[	Bill Routing Subcontract				Routing Subcontract Alternate Code						Blow Through Pseudo				
1	Include	Status	Component Part ID	Description	Cur Qty	Bal Due	Cur Due	LT Offset	Qty Issued	Shortage	On Hand	Qty Per	Manufacturer		
1	1	3	2100	System Unit	20.00	20.00	03/05/2020	5.00	0.00	-19.00	1.00	1.00			
2	1	3	3000	Keyboard	20.00	20.00	03/05/2020	5.00	0.00	24.00	44.00	1.00	Acer		
3	1	3	3100	Monitor	20.00	20.00	03/05/2020	5.00	0.00	35.00	55.00	1.00	Optiquest		

Figure 2. Order Bill of Material—Along with customized routings, the bill of materials for a specific order can be modified to include new components, exclude non-needed material, or change relationships between parts.

	Bill	F	Routing	Subcontract		Alternate Code						
1	Include	Que Code	Oper Seq	Oper Description	WorkCenter	WorkCenter Desc.	Qty Per	Qty Comp	Qty Rem	Ор Туре	Run Time	Setup Time
1	V	Y	0010	Assembly	ASSY	Assembly	1.0000	0.0000	20.0000	U - Unit	0.5000	0.0000
2	V	N	0020	Test	QA	Test	1.0000	0.0000	0.0000	U - Unit	0.6000	0.0000
3				<- Enter seq, then wrkctr.								

*Figure 3. Order Routing—Specific orders can be customized for variations in your manufacturing process by adding new operations, deleting inappropriate ones, or modifying an operation to your exact needs.* 

- Maintain and print standard routing data by operation for each manufactured part.
- Standard routing notes allow you to add routing information that is specific to a part or generic note for any part.
- Automatically generate a pick list and an order routing for each approved shop order.
- Maintain unique routings and bills of material for customized orders.
- Track standard queue times and runtimes for batch and unit processes.
- Calculate operation due and start dates using backward scheduling.
- Rework parts back through the shop without impacting the balance of an order.
- Split a shop order to expedite part of an order through the floor or change part numbers in the middle of the production.
- Track labor, material, and subcontract costs by order number for more accurate job costing and shop management.
- Track work center efficiency and spot bottlenecks by comparing planned hours per job against actual hours expended.

### Post Operation Completion—Control Performance like Never Before

- Display load and queue by work center so you know exactly where it is and what it will take to finish a job.
- As each operator completes their portion of a job, they identify their actual run and setup times, how many units were completed, and where the job should go next.
- Track actual run and setup times to analyze against standards.
- Post Scrap at the operational level to monitor production flow and work center productivity.
- Automatic generation of new orders to compensate for part level scrap above planned levels.
- Auto Post feature saves valuable time by automatically posting the operation complete once the required data is entered.
- User preferences allow you to display only operation sequences that contain load.

01001	# 30000	0003	Pa	rt # 1000		1	Description	Computer					
Drder D	ata					- Quantities ·			Dates ——			h	
Statu	3 · Re	leased	τ.	Planner 000		Current	20		Current Due	3/12/2	2020		
Priorit	y PLAN	NED		Rev A		Act Scrap	0		Org Due	2/2/2	020		
Sche	g · Qı	ueue	Ŧ	Firm 🔽		Bal Due	20						
Refer												]	
Jser Di	efined —												
Key				Tier	-			]					
Seq	Wkctr.	Hold	Туре	Op Description	Queue Qty	Load Qty	Qty Comp	Qty Scrap	Run Time	Set Time	Shift	Defect	
	ASSY	N	U	Assembly	20.0000	20.0000	0.0000	0.0000	0:00:00	0:00:00	1		
0010	0A	N	U	Test	0.0000	20.0000	0.0000	0.0000	0:00:00	0:00:00	1		-
0010 0020												the second se	and the owner of the local division of the l

Figure 4. Enter actual run times, setup times and quantity completed for tracking performance

	Workcente	er A	ssy		
Description	Assembly			🔲 Critical Resour	ce
Туре	S · Shop	Ŧ	Overhead Rate %		200
Std Queue		1	Labor Rate	\$	10
Available Hrs		40	Utilization %		100
User Defined - Key Reference					

Figure 5. Work Center Maintenance — Create and maintain work center information including number of manned hours per day (for costing and capacity planning) and standard queue for proper queue management

May, 2020 Su Mo Tu We Th Fr Sa 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Figure 6. Shop Calendar — Specify your shop's unique scheduling requirements, eliminating tedious rescheduling by automatically bypassing non-working days and scheduling orders to the prior working day



Figure 7. Component Scrap—Quickly scrap component parts and issue replacement parts in one step

Workcenter	ASSY	<u>R</u> efresh		
Assembly				
Current Load V Total Load	/eekly Statistics 80.49999	Total Queue	80.49999	]

Figure 8. Work Center Load—Total work center input, output, load, and queue are accumulated to quickly identify potential bottlenecks and help manage shop leadtimes

### Inquiries—Find Answers Fast

UIU	er Number		An	nended Flag	Routin	g Rev F	Routing Date			
500	00008					Γ	2/10/2020			
Part	ID		Pa	rt Description		F	Rev Level			
230	10		Mo	other Board			F			
		Sea #	Oper ID	Description	Quantity	Queue CD	Completion Date	Actual Run	Actual Set	Oper Type
	WorkCenter	000, 11			0.00	U.	02/26/2020	10,0000	0.0000	11
1	WorkCenter ASSY	0010	· · · · · · · · · · · · · · · · · · ·	Assembly	2.22	ĩ	02/20/2020	10.0000	0.0000	0

*Figure 9. Job Progress Inquiry—Know the detailed progress of orders at each operation including quantity and completion dates.* 

	- Identification Workcenter	ASSY		Assembly				
		Past Due	3/20/2020	3/27/2020	4/3/2020	4/10/2020	4/17/2020	
Capaci	ty	50.00	50.00	50.00	50.00	50.00	50.00	
Queue		31.33	0.00	12.50	0.00	0.00	0.00	
Backlo	g	0.00	0.00	0.00	0.00	0.00	0.00	
Total L	oad	31.33	0.00	12.50	0.00	0.00	0.00	
Over/L	Inder Capacity	-18.67	-50.00	-37.50	-50.00	-50.00	-50.00	
Cum. C	ver/Under	-18.67	-68.67	-106.17	-156.17	-206.17	-256.17	
•		<u>R</u> efresh			Graph	]	D	

Figure 10. Work Center Backlog Inquiry—Display time-phased work center queue and backlog versus capacity, to identify capacity constraints and smooth shop demands.



Figure 11. Work Center Backlog Inquiry—Display time-phased work center queue and backlog versus capacity, to identify capacity constraints and smooth shop demands.

# Priority Planning & Control

A basic premise of any MRP system is to maximize efficiency on the shop floor. To do so, you need to effectively control work center queues (i.e., what is at the work center waiting). MAX's shop floor information provides the mechanism to accomplish that through queue, backlog (i.e., additional work scheduled for that work center, but has not arrived yet), and load (the sum of queue and backlog) calculations.

Within each work center, the contention of available jobs is the focus. Which job should be run next when multiple jobs in queue have various processing times but the same due date? This is where priority exists. MAX uses the industry standard Critical Ratio as the main mechanism to answer that question, however other priority calculations can be made from detailed shop floor data.

		MAX * SHOP FL	OOR CONTR	OL * WORKC	ENTER	DETA	AIL REPO	RT			
WORKCEN TOTALINPU TOTALLOA	ТЕR : ASSY ЛТ : 117 D : 80.5	DESCRIPTION : Assembly TOTALOUTPUT : 36.0 DAYSOFLOAD : 8.0		STANDARDQUE SMOOTH INPUT TOTAL QUEUE	UE	1 0 80.5	HOURSMANNED : SMOOTHOUTPUT : DAYS OF QUEUE :		10 т 12 8.0	YPE :	S
ORDER #	PARTID		DESCRIPTION	SEQ#	CRTRAT	REM	CURDUE	START	BAL Q DUE	RUN HRS	SETUP HRS
30000018	1200		Laptop Computer	0010		2	3/25/20	3/24/20	25.00 Y	12.50	0.00
30000001	1000		Computer	0010	1	2	2/12/20	2/11/20	20.00 Y	10.00	0.00
30000002	1000		Computer	0010	8	2	2/26/20	2/25/20	20.00 Y	10.00	0.00
50000008	2300		Mother Board	0010	8	2	2/26/20	2/25/20	2.22 Y	1.33	0.00
30000003	1000		Computer	0010	PLANNED	2	3/11/20	3/10/20	20.00 Y	10.00	0.00
30000013	1000		Computer	0010	PLANNED	2	7/29/20	7/28/20	20.00 Y	10.00	0.00
TOTAL										53 83	0.00

*Figure 12. Work Center Detail Report* — *the main mechanism to coordinate the short-term production schedule with production supervisors.* 

When overloaded conditions are found, standard routings on released may be changed to alternate work centers. These work centers could be outside the organization (i.e., subcontract processing). Upstream orders (i.e., unreleased MRP planned orders) may require alternate processes to smooth the flow.

# Alternate Processes

MAX's standard WIP control allows work centers on released orders to be changed to alleviate overloaded conditions and reroute processes on the floor. When these conditions persist, Alternate Routings can be used to pre-approve these changes and plan for them. MAX can be directed to use them in both cost roll-ups for determining standard product costs and in Materials Requirements Planning (MRP) when required.

Drd Num	5000002	24 (N)	Type	MF - Shop Order		+	Reference					
Part ID	2300		Part Desc 🕴	Mother Board			Customer O	rder				
Status	3 - Rele	ased 🔹	Cur Qty	10	Order Optio	ons —	Sched	. 3	Pri Stk			
Cur Due	3/17/2	2020	Ext Otv	10	Create E	Boutina	Q · Queue	-	MS			
D.:- D			Bal Dua	10	Bework	,	Rev Level		Priority			
ung Due	3/17/2	2020	BaiDue	10	TICMOIR		F					
							Planner ID					
							000		The second			
Lot/Seña Lot			Key				000		E FIM			
Lot/Seria	S	erial Allocation	Key Reference		]		Query		<b>C</b> Fim			
Lot/Seria Lot Bill	s	erial Allocation Routing S	Key Reference	Alte	] rnate Code	2300-B01	Query	Blow	Through P	seudo		
Lot/Seria Lot Bill	e Status	erial Allocation Routing S Component Part ID	Viser Derined Key Reference	Cur Qty	mate Code Bal Due	2300-B01 Cur Due	Query	DV Blow Qty Issued	Through P	seudo On Hand	Qty Per	
Lot/Sena Lot Bill	e Status 3	Routing S Component Part ID 23008	User Defined Key Reference	Cur Qty 10.00	mate Code Bal Due 10.00 0	2300-B01 Cur Due 13/10/2020	Query LT Offset 5.00	Qty Issued 0.00	Through P Shortage 20.00	seudo On Hand 30.00	Qty Per 1.00	
Lot/Sena Lot Bill Includ	e Status 3 3	Routing S Component Part ID 2300B 3450 23200	User Defined Key Reference Ubcontract Description PCB CPU - FAST	Cur Qty 10.00 10.53	mate Code Bal Due 10.00 0 10.53 0	2300-B01 Cur Due 03/10/2020 03/10/2020	Query Query LT Offset 5.00 5.00	Qty Issued 0.00 0.00	Through P Shortage 20.00	seudo On Hand 30.00 0.00	Qty Per 1.00 1.00	

*Figure 13. Alternate processes may be selected upon order release.* 

Alternate routings begin with establishing a unique code. Then a routing is typically copied from an existing routing and modified to represent the change. They can be seen in inquiries and reports. Once established, the alternate routing can be entered into the Shop Order to instruct MAX to use the alternate pick list. From there, normal Shop Floor Execution takes over for managing and controlling that process.

# **Subcontract Services**

Track work to that cannot be performed in house to outside service providers. Subcontracted services often an expansion internal processes (i.e., painting, bending, fabrication, etc.) in peak period of demand.

- Streamline issuing material to and receiving product from subcontract supplier.
- Track open orders and manage order due dates.
- Establish separate subcontract cost as part of total product cost.
- Create subcontract price and usage variances.

Subcontract Processing allows you to track materials, shortages, and surpluses through every step of the process. MAX's automated processes reduce manual steps while capturing a separate cost component, allowing you to measure performance against that standard. Whether your operations require a subcontracted BOM method<sup>1</sup> or a subcontracted Service (Routing) method, the MAX Subcontract Processing module can be

<sup>&</sup>lt;sup>1</sup> Reviewed in the Materials Section of this document.

configured to meet your needs based upon how you need the work done, where you need it done and how to account for it.

The Service method is used when material is provided to suppliers in a routing process where their service constitutes one, or more, of the sequences. In this case, the part number does not change for the part returned and there could be further internal processes, including inspection. These types of orders are managed by production as they are part of the routing.

Manage processing at outside suppliers as an extension of your manufacturing process.

- Use Service IDs to group similar suppliers.
- Specify order Minimums, Base Charges, and Price Break quantities for each service and supplier.
- Create Blanket Service Orders with authorization based on outstanding currency value.
- Assign, Transfer, and Receive subcontract orders from one easy-to-use interface.
- Highlight orders that do not reach order minimums.
- Ship to subcontractors directly from work-in-process.
- Receive from subcontractors directly into work-in-process.
- Display/report total and detail costs of materials shipped, product received, and subcontract costs totaled by vendor, part, or order number.

70000003					<u>U</u> pdate
Service ID	Description				
PLATING	Electro Plating Serv	ice			Clear
Vendor ID	Vendor	Name			
010	Outside	e Etching Compa	ny		Delete
Outstanding	19900	Effectivity	2/10/2020	Date	1.1
Outstanding	19900	Effectivity	2/10/2020	Date	11
Minimum Charge	0	Expiration	2/9/2021		
Excess Percentage	10				
Active Order	V				
		<u> </u>			

Figure 14. Establish shipping details and spending limits with the Service Order Detail window

	50000007	Туре	MF - Shop	Order +	Refe	erence					
Part ID	2200	Part Desc	Cabinet		Cust	omer Order					
Status	3 - Released	👻 Cur Qty	2	0 Order Options	Sche	ed	Pri Stk				
Cur Due	2/27/2020	Evt Ohu	2	Create Bouting	Q - 1	Queue	- MS				
		E I D			Rev	Level	Priority		-		
Ung Due	2/27/2020	BalDue	2		E		1.77	8			
					Plan	ner ID					
Lot/Serial		User Define	d		000		Firr	n			
	Serial Allocation	Reference				Query					
		Subcontract		Alternate Code							
Bill	Houting						-	0- T		Setun Time	
Bill	Que Code Oper Seq	Oper Description	WorkCenter	WorkCenter Desc.	Qty Per	Uty Comp	Uty Rem	Up Type	nun nine	a a colle i una	
Bill	Que Code Oper Seq Y 0010	Oper Description	WorkCenter CUT	WorkCenter Desc.	Qty Per 1.0000	Uty Comp 0.0000	Uty Rem 20.0000	Up Type U - Unit	0.1000	1.0000	
Bill	Houting           Que Code         Oper Seq           Y         0010           N         0020	Oper Description Cut Bend	WorkCenter CUT BEND	WorkCenter Desc. Cut Bend	Qty Per 1.0000 1.0000	Uty Comp 0.0000 0.0000	Uty Rem 20.0000 0.0000	Up Type U - Unit U - Unit	0.1000 0.1000	1.0000	
Bill Include V	Houting           Que Code         Oper Seq           Y         0010           N         0020           N         0030           N         0040	Oper Description Cut Bend Outside Vendor Shop	WorkCenter CUT BEND DVS	WorkCenter Desc. Cut Bend Dutside Vendor Shop	Qty Per 1.0000 1.0000 1.0000 1.0000	Uty Comp 0.0000 0.0000 0.0000	Uty Hem 20.0000 0.0000 0.0000	Up Type U - Unit U - Unit U - Unit	0.1000 0.1000 0.0000	1.0000 1.0000 0.0000	
Bill Include V V V V V V V V V V V V V V V V V V V	Houting           Que Code         Oper Seq           Y         0010           N         0020           N         0030           N         0040           N         0050	Oper Description Cut Bend Outside Vendor Shop Paint	WorkCenter CUT BEND DVS PAINT	WorkCenter Desc. Cut Bend Outside Vendor Shop Paint Test	Qty Per 1.0000 1.0000 1.0000 1.0000 1.0000	Uty Comp 0.0000 0.0000 0.0000 0.0000	Uty Rem 20.0000 0.0000 0.0000 0.0000	Up Type U - Unit U - Unit U - Unit U - Unit	0.1000 0.1000 0.0000 0.1000 0.1000	1.0000 1.0000 0.0000 0.0000	

Figure 15. Orders with outside sequences are identified on the shop order.

	terrer and the second s		1		B	eference		
)rd Num	5000007	Туре	MF - Shop O	rder 🔹				
Part ID	2200	Part Desc	Cabinet		0	ustomer Order		
itatus	3 - Released	Cur Qty	20	Order Option		ched	Pri Stk	
CurDue	2/27/2020	Ext Qty	20	Create B	outing	) - Queue	- MS	
Iria Due	2/27/2020	<b>Bal Due</b>	20	Rework	R	ev Level	Priority	
ing blue	2/2//2020				E		1.778	
		U DC	2		P	lanner ID		
.ot/Serial			]		0	100	📃 📰 Firm	
Lot		Key						
	Carial Allanation	Reference						
1	-o shar Aliusaturi		4			Query		
Bill	Routing	Subcontract						
Oper S	eq Oper Descri	ption	WorkCenter	Service Order	1	Vendor	Service ID	Cost 🔺
0030	Outside Vendor Shop		OVS		010		PLATING	2.50

*Figure16. Orders with outside sequences are identified on the shop order.* 

Service ID	Descrip	otion			Minimum Charge		Assignment				
PLATING	Electro	Plating Servic	9			0	<u>Internstein</u> <u>Receipt</u>				
/endor ID	Descrip	otion			Total		🔘 Undo Assigi	n			
010	Outsid	e Etching Comp	bany		0.0	00000	Undo Trans Undo Recei	fer ipt			
Service Order <mark>70000003</mark>	User D	efined Descripti	on		Outstanding Amo	ount 19900	Query Process				
Move Last Number 00000	00002	Last Move	Date		Next Number	00000000	003				
Include Part ID	Description	Work Order	Service Order	Vendor	Base Charge	Oto Beadu	Transfer Qtu	Beceint Qtu	Cost/Unit	Ext Cost	
THORAGE TAKE					the second se						

Figure 17. Assign and transact subcontract orders using the Service Navigator.

💆 Service Scra	ap 1		x
Transaction -	700000000101		٦
Urder			
Defect Code	GL Reference		
Service Order	r Detail		
Part ID	2200 Part Description Cabinet		
Vendor ID	010 Vendor Name Outside Etching Company		
Quantity	20.00 Due Date 2/10/2020 Promise Date 2	/10/2020	
Reference			
C Job			
Work Order	500000010000 Oper Seq 0030		
Quantities —			
Shipped	20.00 Total Scrap 0.00		
Received	20.00 At Vendor 0.00		
	Post		

*Figure18. Subcontract processing helps control vendor scrap costs and manage order due date changes.* 

# Labor Tracking

Keep track of worker activity with the accuracy and fairness your team deserves.

MAX Labor Tracking allows the computer to act as a time clock, resulting in more accurate time reporting. The Labor Tracking Module is an online labor tracking system that allows you to track actual work performed for specific work order operations or for indirect time (i.e., breaks, meetings, etc.) and can interface with your company's payroll system.

### Labor Tracking Highlights

- Maintain employee data such as pay scales, pay rates, work shifts, and overhead rates.
- Assign hourly pay rates per employee and specify shift.

Employee ID 102	Labor Type	E - Employee	7		Employee ID	102		
Employee Name —					Name	JERRY MAXQUIRE		
<u>F</u> irst	JERRY	Mi <u>d</u> dle			Login Date	3/17/2020	Login Time	8 : 44 : 23
Last <u>N</u> ame	MAXQUIRE				Record <u>S</u> tatus	A - Active 🔹	Record Type	W - Work *
<u>s</u> sn		S <u>h</u> ift	1 - First	÷	Wor <u>k</u> Order	30000001	Operation Sequence	0010
<u>D</u> efault Work Center	ASSY	<u>P</u> ay Type	H · Hourly	<b>-</b>	Labor Type	E · Employee 🔻	Work <u>C</u> enter	ASSY
<u>N</u> ormal Pay Rate	10	0 <u>v</u> erhead Rate	200		Shi <u>f</u> t	1 - First 🔹	Acct Type	
Indire <u>c</u> t Labor Account Type	S	<u>P</u> rivilege	S - Single	•	Start Date	3/17/2020	Start Time	8 : 44 : 23
<u>S</u> upervisor ID	100	Include in Payroll P	rocessing 📃		End Date	3/17/2020	End Time	
0⊻ertime Allowed		<u>S</u> upervisor			Elapsed Time (Hours)	0	Transactio <u>n</u> Reference	
<u>U</u> DF Key		U <u>D</u> F Reference			Quantity Completed	0	Quantity Scrapped	0
Login/Logout recor	rds				Unit of Measure	EA	Set <u>u</u> p Time	
Open Records	0 View 0	pen Records	Extended F	ield:				

With Labor Tracking, you can...

- Manage employee work on an individual, employee ID basis.
- Accurately track direct time on shop orders
- Allocate time expended on multiple simultaneous orders for more accurate job costing.
- Use actual run and setup times to refine standard times.
- Calculate efficiencies by shift, work center and employee.
- Track indirect labor costs by GL account.

### **Two Labor Collection Methods**

The MAX Labor Tracking Module can operate in two modes simultaneously. Some employee groups may use the Time Ticket method while others the Login/Logout method.

- Time Ticket: Use Time Ticket Entry to enter employees reported direct and indirect time worked for specific period as a batch process. Typically entered the next day for the previous day.
- Login/Logout: Eliminate manual data entry by training employees to manage their own labor entry by manually logging in and out of each work order operation and/or indirect time code. This can be accomplished using the MAX Labor Tracking Module or with the integrated capabilities of the MAX Data Collection module.

<u>)</u> ate	3/17/20	20	Employee I	D 102	Employe	e Name 🛛 JEI	RRY MAXQU	IRE			
ic <u>k</u> et	1		Total Time	03:30							
hi <u>f</u> t	1 - First	0	r 🗾 Indire	ct Wo	rk Or <u>d</u> er <mark>3000</mark>	00001	Part ID 10	00			
eq	0010	Accl Type		L verride	Qty Completed	0	Qty Scr	apped (	(		
tart Time	1 : 3	D	End Time	<b>Z</b> : 0	Setup Tir	ne	]:	Elapse	d Time	2 : 30	
4	Shift C	)rder No.	Part	Seq. # (	Qty Completed (	Qty Scrapped	Start Time	End Time	Setup Time	Elapsed Tim	e 🔺
1 1	30	000001	1000	0010 s	0.000000	0.000000	08:30	10:15	00:00	01:45	
3 1	30	000001	1000	0010	0.000000	0.000000	10:30	12:00	00:00	01:30	

Figure 21. Enter employees' reported time worked for specific work order operations for both direct and indirect labor.

art with Employee	End with Employe	e					Query			
02	102									
	5 1 1 1 2 1		1					1		
Employee IL	Employee WorkLenter	Employee Name	Login Date	Login I ime	Urder No.	Seq. #	Part	Lot Number	WorkLenter	

Figure 22. View all employees with open work records.

- System supervisor override allows maintenance of adjustments.
- Display all employees currently working on an operation.
- MAX automatically records transaction history information for all posted labor transactions, providing an accurate audit trail of work always performed.

			кіну кер	on				
	By EMP	LOYEE ID from '102' to '10	2' from '3/17/20	020' to '3/	7/2020			
EmployeeID	EmployeeName	Start Date	StartTime E	End Date	EndTime	WorkOrder	Opr Seq	ActualHour
102	JERRY MAXQUIRE							
		3/17/20	01:30:00 3/	17/20	04:00:00	300000010000	0010	2.5000
		3/17/20	08:30:00 3/	17/20	10:15:00	300000010000	0010	1.7500
		3/17/20	10:15:00 3/	17/20	10:30:00	ISAF		0.2500
		3/17/20	10:30:00 3/	17/20	12:00:00	300000010000	0010	1.5000
			Total T	Time for 10	)2 on 3/17/2	0		6.0000
	Total Time for	Employee 102, JE	ERRY MAXQUI	RE				6.0000
		1	Total Reporte	ed Labo	r Time			6.0000

r Tracking Dopor

Figure 23. Review transaction history records

MAX Labor Tracking seamlessly integrates with MAX Data Collection to help you track your business' labor hours quickly and accurately so you can capture and report the data that reveals how well your labor is being utilized.

Now there is an easier, more effective way to track labor hours. Enhance your MAX System with MAX Labor Tracking today!

### **Production Summary**

MAX ERP is a planning system – down to its time to execute and then, it is a detailed shop floor management and control system. Orders planned through Reorder Point or MRP are released to the floor as a shop order, which forms the basis for this control, as well as work in process accounting. As conditions on the floor changes, the shop orders may be modified to reflect those changes. Alternate processes and subcontract services may also be used to help balance the demand on production and the supply of productive capacity. The Labor Tracking module adds an extra layer of detail to actual direct time, as well as indirect time from production employees. Actual labor completes the accounting and allows for full variance analysis of planned vs. actual.

# **Materials**

The key to success in Materials is to have the right level of inventory in place to maximize customer service and productivity metrics. The higher the volume of your shipments, the more inventory can be justified. Of course, Finance & Accounting will remind us of this, but as Material Managers we should be proactively acting in this area. Because many mistakes made in ERP translate into inventory, this area is typically a real mess in many organizations.

#### Materials

- MRP
- Inventory Control
- Physical Inventory
- Lot/Serial Tracking
- Recall Management
- Purchasing
- Subcontract Processing
- Repetitive Manufacturing

Inventory Management and Control is the focus of the area. In some industries, lot and serial control are part of the inventory process and, in some of those, recall management is a critical function. Everyone is concerned with accuracy, thus Physical Inventory (a module) and Cycle Counting (a process) are important functions.

Although we can argue that MRP is a scheduling function, it is included in Materials due to the amount of data required for MRP to calculate properly (i.e., Part Type Codes, Order Policies, Order Qualifiers (minimum, maximum, multiple), lead-times, etc.).

In many organizations, the purchasing function is a sub-set of materials. Sourcing product from suppliers, negotiating costs and terms and then executing plans for all purchased material are managed.



## MRP

Material Requirements Planning (MRP) balances the supply and demand for all parts needed to satisfy your Master Schedule. The MRP process performs two essential tasks: Plans orders so that supply equals demand for each part. Explodes supply orders through the bills of materials to determine the quantity, and timing, of component parts required. The new time-phased plan is viewed as a series of new planned orders, and exception messages where human intervention is required. This module also maintains MRP planning data for parts.

🕰 MRP	
Activity Inquiry Report	Batch Options Tools Window Help
068.4	Regen Requirements
	MRP Explosion
	Bulk Order Approval

Figure 1. Completely regenerate the MRP plan or just process what has changed.

### **MRP Explosion**— Accurate Material Plans

Selection Criteria				izon ———
	Part Num	ber 👻 🔽	Aļi Ear	liest 9/19/2019
nclude -	<u>S</u> tart			
🗸 <u>A</u> - MRP Mfg'd Part			Lati	est 6/15/2020
B - MRP Prch'd Part	<u>E</u> nd		- Tim	e Fence
				days
Progress				- Unit of Measure
Status				
The explosion was succ	essful!	-		
Convent Deat		LLC Durand	Tabal Dash	Normal Rounding
3650			2	O Round Down
0000				O Round Up
			29	
		Urders Created	222	
Start Time 09:	38:37	Orders Created	0	Process
Start Time 09: Elapsed Time 00:	38:37 00:02	Orders Created	0	Process E <u>x</u> ceptions

Figure 2. Respond quickly to changes in supply and demand while improving delivery schedules.

- MRP routine is available as a "command-line" batch process that can run unattended (recommended).
- Calculate component requirements with regenerative or net change explosion logic.
- Due dates for component parts are automatically calculated using "backward scheduling", making sure you get the right parts at the right time.
- Define a firm planned "time fence" to control orders within a user-defined planning horizon and prevent rescheduling, expediting, or de-expediting of already released orders.
- Control which parts are planned by setting Part Type Code.
- Instruct MRP on how to create planned orders through the Order Policy Code (i.e., lot-for-lot, weekly, periodic, etc.).
- This routine examines data for each MRP planned component including, dependent demand quantities over the time horizon, quantities on-hand, and existing scheduled receipts before suggesting new orders or providing exceptions.
- A flexible selection criterion allows you to run MRP on specific parts, planners, commodity codes or user-definable preferences.

### Planner Action—Understand Your Plan

1 P	lanner Action 1 - Curren	t MRP Run													i X
9	Sort By Exception Type BR Below Reorder Point DE Order De-Expedited DF Couldn't De-Exp. (Frm) NI No Activity Index Record RI Couldn't Pull In (Firm) BE Order Bescheduled		BUY Pull-In BUY O Push-Ou	0 <u>M</u> AKE 0 t	Date R Start End	ange	Enabled /2020 //2020								
	∠ Order	Part	Desc	Qty	Resched	Edit	MRP Need	Due Date	Exception	OK	Planner	Buyer	Vendor	Comm.	
	1 40001885	3400	CPU	22.22	05/13/2020		05/14/2020	05/14/2020	Couldn't Pull In (Firm)	V	000	010	006	Elec	
	2 40001832	3200	Floppy Disk	40.00	05/20/2020	)	05/21/2020	05/21/2020	Couldn't Pull In (Firm)	V	000	010	007	Elec	
	3 40001845	3600	24V Power S	20.00	05/20/2020		05/21/2020	05/21/2020	Couldn't Pull In (Firm)		000	010	009	Elec	
	4 40001858	2300B	PCB	22.22	05/13/2020	)	05/14/2020	05/14/2020	Couldn't Pull In (Firm)		000	010	007	Elec	
	5 40001777	3000	Keyboard	20.00	04/30/2020	<u> </u>	05/14/2020	05/14/2020	Couldn't Pull In (Firm)		000	010	004	Elec	
	6 40001778	3000	Keyboard	20.00	05/14/2020	C )	05/28/2020	05/28/2020	Couldn't Pull In (Firm)	1	000	010	004	Elec	
	7 40001779	3000	Keyboard	20.00	05/28/2020		06/11/2020	06/11/2020	Couldn't Pull In (Firm)		000	010	004	Elec	
	8 40001780	3000	Keyboard	20.00	06/11/2020	C )	06/25/2020	06/25/2020	Couldn't Pull In (Firm)	1	000	010	004	Elec	
	9 40001781	3000	Keyboard	20.00	06/25/2020	<b></b>	07/09/2020	07/09/2020	Couldn't Pull In (Firm)		000	010	004	Elec	
	10 40001782	3000	Keyboard	20.00	07/09/2020		07/23/2020	07/23/2020	Couldn't Pull In (Firm)		000	010	004	Elec	
	11 40001783	3000	Keyboard	20.00	07/23/2020	<b></b>	08/06/2020	08/06/2020	Couldn't Pull In (Firm)		000	010	004	Elec	
	12 40001784	3000	Keyboard	20.00	08/06/2020	)	08/20/2020	08/20/2020	Couldn't Pull In (Firm)		000	010	004	Elec	
	13 40001785	3000	Keyboard	20.00	08/20/2020	[]	09/03/2020	09/03/2020	Couldn't Pull In (Firm)		000	010	004	Elec	
	14 70000010-01-01	3700	Memory	100.00	03/05/2020		03/19/2020	03/19/2020	Couldn't Pull In (Firm)		000	010	005	Elec	
	15 40001893	3700	Memory	43.27	03/19/2020		04/16/2020	04/16/2020	Couldn't Pull In (Firm)		000	010	005	Elec	
	16 40001894	3700	Memory	46.78	03/19/2020	<u> </u>	04/30/2020	04/30/2020	Couldn't Pull In (Firm)		000	010	005	Elec	
	17 40001895	3700	Memory	46.78	04/02/2020	C	05/14/2020	05/14/2020	Couldn't Pull In (Firm)		000	010	005	Elec	
	18 40001896	3700	Memory	46.78	04/16/2020		05/28/2020	05/28/2020	Couldn't Pull In (Firm)		000	010	005	Elec	
	19 40001897	3700	Memory	46.78	04/30/2020	C )	06/11/2020	06/11/2020	Couldn't Pull In (Firm)		000	010	005	Elec	
	20 40001898	3700	Memory	46.78	05/13/2020	<u> </u>	06/25/2020	06/25/2020	Couldn't Pull In (Firm)		000	010	005	Elec	
	21 40001899	3700	Memory	46.78	05/28/2020		07/09/2020	07/09/2020	Couldn't Pull In (Firm)		000	010	005	Elec	

Figure 3. Quickly identify problems with the plan and make changes to balance supply and demand.

- Displays items that require attention after an MRP run in an easy-to-use spreadsheet format (supply and demand is out of balance).
- Over 10 exception messages identify parts/orders that need immediate attention.
- Exception filters allow Planners to concentrate on the most critical problems first, eliminating overwhelming amounts of data.
- Clearly mark items as being resolved so they do not have to be viewed again.
- Quickly drill-down on an item bringing you to the MRP Detail for that part.
- "Edit" button on order exceptions allows for quick change of due dates.
- User preferences allow the grid to be customized to show desired information for a particular user.



### MRP Detail—Do not Get Swamped in MRP Output

- Maintain MRP planning data for manufactured and purchased parts.
- Intuitive display clearly shows demand and supply information and the projected available balance of the part over time.
- Color-coded projected available alerts the planner to actions required to prevent shortages.
- Validate demand through single level pegging to the parent order.
- Double-click the supply order on make parts to maintain the order in Order Navigator.
- Use the Purchasing Control Activity Purchasing Schedule to manage purchase orders.
- "Freeze" (firm plan) the date of any order with a click of the mouse.

### Order Navigator—Real-time Editing & Approval of Orders

MRP - [Order Navigator 1]

ctivity Order	Edit Inq	uiry Re	eport	Batch	Options 1	ools Window	w Help												
🖻 🔒   🐰 🛙	d 🔁 🖨	र <sub>-</sub>																	
Range					Include	Order Status —		Includ	e Order Part T	ypes —									
Select By	Order Nu	mber			V <u>1</u> ·I	Planned		V P	urchased Part	s									
Start					2.1	Approved		M	anufactured F	Parts									
_																			
End					<u>3</u> -1	Heleased		5	ubcontract Pa	irts									
				_				M	aintenance ()	bjects									
						0		<u> </u>											
						Quely													
Order Number	Туре	App	Rel	Firm	Part ID	Description	Ord Qty	Qty Due	Cur Due	Org Due	Start Date	Priority	Planner	Vendor	Stock	Sched	Rev	MPN	Manufactur
40001777	PL			1	3000	Keyboard	20.0000	20.0000	05/14/2020	05/14/202	0 05/07/2020	PLANNED	000	004	MS	Q	A	6511-TW	Acer
40001778	PL			<b>V</b>	3000	Keyboard	20.0000	20.0000	05/28/2020	05/28/202	0 05/20/2020	PLANNED	000	004	MS	Q	A	6511-TW	Acer
40001779	PL			1	3000	Keyboard	20.0000	20.0000	06/11/2020	06/11/202	0 06/04/2020	PLANNED	000	004	MS	Q	A	6511-TW	Acer
40001780	PL			V	3000	Keyboard	20.0000	20.0000	06/25/2020	06/25/202	0 06/18/2020	PLANNED	000	004	MS	Q	A	6511-TW	Acer
40001781	PL		1	1	3000	Keyboard	20.0000	20.0000	07/09/2020	07/09/202	0 07/02/2020	PLANNED	000	004	MS	Q	A	6511-TW	Acer
40001782	PL		(***	1	3000	Keyboard	20.0000	20.0000	07/23/2020	07/23/202	0 07/16/2020	PLANNED	000	004	MS	Q	A	6511-TW	Acer
40001783	PL		(m)	1	3000	Keyboard	20.0000	20.0000	08/06/2020	08/06/202	0 07/30/2020	PLANNED	000	004	MS	Q	A	6511-TW	Acer
40001784	PL			1	3000	Keyboard	20.0000	20.0000	08/20/2020	08/20/202	0 08/13/2020	PLANNED	000	004	MS	Q	A	6511-TW	Acer
40001785	PL			V	3000	Keyboard	20.0000	20.0000	09/03/2020	09/03/202	0 08/27/2020	PLANNED	000	004	MS	Q	A	6511-TW	Acer
40001786	PL			V	3100	Monitor	15.0000	15.0000	04/02/2020	04/02/202	0 03/19/2020	PLANNED	000	008	MS	Q	В	V75	Optiquest
40001787	PL			V	3100	Monitor	20.0000	20.0000	04/16/2020	04/16/202	0 04/02/2020	PLANNED	000	008	MS	Q	В	V75	Optiquest
40001788	PL			1	3100	Monitor	20.0000	20.0000	04/30/2020	04/30/202	0 04/16/2020	PLANNED	000	008	MS	Q	В	V75	Optiquest
40001789	PL			1	3100	Monitor	20.0000	20.0000	05/14/2020	05/14/202	0 04/30/2020	PLANNED	000	008	MS	Q	В	V75	Optiquest
40001790	PL			1	3100	Monitor	20.0000	20.0000	05/28/2020	05/28/202	0 05/13/2020	PLANNED	000	008	MS	Q	В	V75	Optiquest
40001791	PL				3100	Monitor	20.0000	20.0000	06/11/2020	06/11/202	0 05/28/2020	PLANNED	000	008	MS	Q	В	V75	Optiquest
40001792	PL		1		3100	Monitor	20.0000	20.0000	06/25/2020	06/25/202	0 06/11/2020	PLANNED	000	008	MS	Q	В	V75	Optiquest
40001793	PL		[7]		3100	Monitor	20.0000	20.0000	07/09/2020	07/09/202	0 06/25/2020	PLANNED	000	008	MS	Q	В	V75	Optiquest
40001794	PL		100		3100	Monitor	20.0000	20.0000	07/23/2020	07/23/202	0 07/09/2020	PLANNED	000	008	MS	Q	В	V75	Optiquest
40001795	PL		07		3100	Monitor	20.0000	20.0000	08/06/2020	08/06/202	0 07/23/2020	PLANNED	000	008	MS	Q	В	V75	Optiquest
40001796	PL		[[7]]		3100	Monitor	20.0000	20.0000	08/20/2020	08/20/202	0 08/06/2020	PLANNED	000	008	MS	0	В	V75	Optiquest
40001797	PL		1		3100	Monitor	20.0000	20.0000	09/03/2020	09/03/202	0 08/20/2020	PLANNED	000	008	MS	0	В	V75	Optiquest
40001798	PL				3800	Portable Kev	5.0000	5.0000	03/16/2020	03/16/202	0 03/09/2020	PLANNED	000	004	MS	Q	Y	6511-TW	Acer
40001840	PL			V	3600	24V Power S	19.0000	19.0000	03/12/2020	03/12/202	0 02/27/2020	PLANNED	000	009	MS	Q	Н	ILP-3600	Illinois Power
40001841	PL	F			3600	24V Power S	20.0000	20.0000	03/26/2020	03/26/202	0 03/12/2020	PLANNED	000	009	MS	n N	H	ILP-3600	Illinois Power
40001842	PL	E			3600	24V Power S	20.0000	20.0000	04/09/2020	04/09/202	0 03/26/2020	PLANNED	000	009	MS	â	H	ILP-3600	Illinois Power
40001843	PL	E			3600	24V Power S	20.0000	20.0000	04/23/2020	04/23/202	0 04/09/2020	PLANNED	000	009	MS	a	Н	ILP-3600	Illinois Power
40001844	PI	E			3600	24V Power S	20.0000	20.0000	05/07/2020	05/07/202	0 04/23/2020	PLANNED	000	009	MS	n n	н	ILP-3600	Illinois Power
40001845	PL				3600	24V Power S	20.0000	20.0000	05/21/2020	05/21/202	0 05/07/2020	PLANNED	000	009	MS	à	Н	ILP-3600	Illinois Power
40001846	PL				3600	24V Power S	20.0000	20.0000	06/04/2020	06/04/202	0 05/20/2020	PLANNED	000	009	MS	Q.	Н	ILP-3600	Illinois Power
40001847	PL				3600	24V Power S	20.0000	20.0000	06/18/2020	06/18/202	0 06/04/2020	PLANNED	000	009	MS	0	Н	ILP-3600	Illinois Power
40001848	PL	m	100		3600	24V Power S	20.0000	20.0000	07/02/2020	07/02/202	0 06/18/2020	PLANNED	000	009	MS	0	Н	ILP-3600	Illinois Power
40001849	PL	m	[[7]]		3600	24V Power S	20.0000	20.0000	07/16/2020	07/16/202	0 07/02/2020	PLANNED	000	009	MS	n n	Н	II P-3600	Illinois Power
40001850	PL		[[7]]		3600	24V Power S	20.0000	20.0000	07/30/2020	07/30/202	0 07/16/2020	PLANNED	000	009	MS	0	Н	II P-3600	Illinois Power
40001851	PL		[[7]]		3600	24V Power S	20.0000	20.0000	08/13/2020	08/13/202	0 07/30/2020	PLANNED	000	009	MS	ñ	н	ILP-3600	Illinois Power
	1	1000	1111		1000	211101010	10.0000	_0.0000		1 - 51 - 51 202			100	1200		-		1.2. 00000	
40001852	PL		177	3	3600	24V Power S	20.0000	20.0000	08/27/2020	08/27/202	0 08/13/2020	PLANNED.	000	009	MS	Q.	Н	ILP-3600	Illinois Power

*Figure 6. Edit order schedule in a real-time environment.* 

- Display orders for manufactured, purchased and subcontract parts.
- Maintain planned and approved orders (i.e., change quantity and/or date) on-line and immediately see the effect of the changes.
- "Freeze" (firm plan) the date of any order with a click of the mouse.
- Approve planned orders to either manufacture or purchase any parts (make/buy decisions).
- Approve planned orders for subcontracted parts.
- Bulk Order Approval allows you to approve groups of orders together rather than one at a time, saving valuable input time.

### Inquiries—Critical Information at Your Fingertips

Urdei	r <u>N</u> umber		Order Qty								
3000	00040000		2	20							
Part I	D		Part Description								
1000	)		Computer								
	Part ID	Description	On Hand	Required	Shortage						
1	2100	System Unit	1.00	20.00	19.00						
	3000	Keyboard	44.00	20.00	0.00						
2			55.00	20.00	0.00						
2 3	3100	Monitor	00.00								

Figure 7. Quickly review and verify component part availability in inventory before releasing a shop order

-alerit	Part ID		On Hand Qty		Date Range -	Enabled				
1000				0	01-0	2000				
Descrip	ption 1		Non-Net Uty		Statt 177	172020				
Comp	uter			10	End 3/1	7/2020				
Finclu F S F	ide ?Janned Di <u>S</u> how Shor nclude Pu	ders 🛛 🗹 Approve t (negative) Parts on rchased Supply	d y () Ex () Ex () Im () Im	plosion plosion (Mylti) plosion plosion (Multi)		kets Weekly Monthly Quarterly		uery		
	Level	Part ID		2/14/2020	2/21/2020	2/28/2020	3/6/2020	3/13/2020	3/20/20	
	-	1000		20.00	0.00	20.00	0.00	20.00	0.	
				20.00	20.00	40.00	40.00	60.00	60.	
	1	2100	Available	0.00	0.00	0.00	1.00	0.00	0.	
	1	3000	Available	0.00	44.00	50.00	50.00	30.00	30.	
	1	3100	Available	0.00	55.00	60.00	60.00	60.00	60.	
	1	LABOR - ASSY	Available	0.00	0.00	-6.00	-17.00	-44.00	-59.	-

*Figure8. View shortages for assemblies of critical components in weekly time buckets or graphical format* 

art	ID	Part Type				
360	0	B - Normal MRP Purch.	Part -	CBucke	ting	
esc	ription 1	On Hand Qty I	Non-Net Qty	0 V	/eeklu	
24V	Power Supply	50		0		
)esc (RF	ription 2 Flag	Include	7 Planned Orders		joniniy Juarterly	
2		Past Due	3/20/2020	3/27/2020	4/3/2020	4/10/2020
1	Forecast Demand	0.00	0.00	0.00	0.00	0.00
	0 1 0 1		0.00	0.00	0.00	
2	Lustomer Demand	0.00	0.00	0.00	0.00	0.00
2	Dependent Demand	44.00	0.00	20.00	0.00	20.00
2 3 4	Dependent Demand Total Demand	44.00	0.00	20.00	0.00	20.00
2 3 4 5	Dependent Demand Total Demand Scheduled Receipt	44.00 44.00 19.00	0.00	20.00 20.00 20.00 20.00	0.00	20.00 20.00 20.00 20.00
2 3 4 5 6	Dependent Demand Total Demand Scheduled Receipt Planned Scrap	44.00 44.00 19.00 0.00	0.00 0.00 0.00 0.00 0.00	20.00 20.00 20.00 20.00 0.00	0.00 0.00 0.00 0.00 0.00	20.00 20.00 20.00 20.00 0.00
2 3 4 5 6 7	Dependent Demand Total Demand Scheduled Receipt Planned Scrap Net Available	0.00 44.00 44.00 19.00 0.00 25.00	0.00 0.00 0.00 0.00 0.00 25.00	20.00 20.00 20.00 0.00 25.00	0.00 0.00 0.00 0.00 25.00	20.00 20.00 20.00 0.00 25.00
2 4 5 6 7 8	Dependent Demand Dependent Demand Total Demand Scheduled Receipt Planned Scrap Net Available Planned Orders	0.00 44.00 19.00 0.00 25.00 19.00	0.00 0.00 0.00 0.00 25.00 0.00	20.00 20.00 20.00 0.00 25.00 20.00	0.00 0.00 0.00 0.00 25.00 0.00	20.00 20.00 20.00 0.00 25.00 20.00
2 4 5 6 7 8 9	Dependent Demand Dependent Demand Total Demand Scheduled Receipt Planned Scrap Net Available Planned Orders Available to Promise	0.00 44.00 19.00 0.00 225.00 19.00 25.00	0.00 0.00 0.00 0.00 25.00 0.00 25.00	20.00 20.00 20.00 0.00 25.00 20.00 25.00	0.00 0.00 0.00 0.00 25.00 0.00 25.00	0.00 20.00 20.00 0.00 25.00 20.00 25.00

Figure 9. Display supply and demand information in summarized time buckets

# **Inventory Control**

Track and maintain inventory balances for each part you stock including finished goods, assemblies, component parts, and raw materials.

- On hand quantities
- Nettable (usable) and Non-nettable stockrooms
- Multiple Stock Locations per part
- Material Transaction Processing
- Multiple Record Processing
- Standard Transaction References
- Cycle Count Support
- Secure

Inventory Control is one of the foundation modules on which the MAX system is built. It enables you to track and maintain inventory balances for each part you stock, including finished goods, assemblies, component parts and raw materials—so you will always know where your inventory is located and how many parts are on hand.

This higher level of control and visibility will result in increased inventory turnover and improved inventory accuracy.

### Multi Record Processing—Real Productivity Gains

<u>S</u> tar	Start 30000001			<u>E</u> nd	30000007				1	Query 🔒	ocess Clea	ar I
	C Select	t only Status	3 orders						6			_
	Order	Line	Del	Part I	D Description	Quantity	Stock ID	Zone	Reference	GL Ref	UDF Key	UDF Ref 📥
1	30000001	00	00	1000	Computer	20.00	FG					
2	30000002	00	00	1000	Computer	20.00	FG					
3	30000003	00	00	1000	Computer	20.00	FG	2			-	······································

*Figure10. Process all the day's inventory receipts with a click of the mouse.* 

- Save time on all transactions by processing more than one record simultaneously.
- View all inventory transaction records in a spreadsheet grid.
- Customize the layout of the grid based on user preference.
- Grid contains only entry fields so transactions can be processed quickly.
- Transact the parts in the grid in bulk, rather than one at a timesaving valuable entry time.
  - Issue all components to a shop order.
  - Receive all parts from a purchase order.
  - Enter cycle count results.
- Cut & Paste grid contents to any windows application.
- Full security gives users access to only the transactions they need to do their job.

### Inventory Transactions — Everything from the Desktop

Inventory Tra	ansactions1													_ = ×
Non-In Transfer	ventory Recei	Repeti pt Issu	ive Ie	S Adjustmen	iubcontract Sl it (	nipment Cycle Cour	nt	Part ID 1000				]		
Shop	*	Insp	. Rqrd. 📃	On	Hand Before	0.00		V Inc	ude Empty Lo	ications	🔄 Inclu	ide Consigr	nment Lo	pations
Part ID				Descr					Stock Room	Quantity	Zo	ne	Shared	Consignmen
Order #			Vendor					1	BLNCPNT FG	10.0				
Receipt Date	3/17/2020	Planner ID	Pur/Uom	EA	Receipt Cos	t		2	i u	0.04	-1			
Due Date	3/17/2020	Buyer ID	Bom/Uom	EA	Cost /Uni	t 0.0000								
Stock ID		Zone		Alternat	e		- 11							
Quantity	0	Balance 0.0	00 F	Ref.										
GL Ref.		UDF Key		UDF Ref	f,									
MPN		Ma	anufacturer		COS		=							
Process	Cjea		Re	ceiver	Help									
<u>S</u> tart 300000	001 ect only Status 3	End orders	30000007							Quer	Proc	ess <u>C</u> le	ar	
Order 1 20000001	Line	Del Pa	it ID	Descript	tion	Quantity	Stock ID	Zon	e Refere	nce GL	Ref	UDF Key	UDF	Ref 🔺
2 30000002	2 00	00 1000	Com	puter puter		20.00	FG							
3 3000003	00	00 1000	Com	puter		20.00	FG							

Figure 11. Top panes process individual records to accurately report movement. Stock status is automatically updated.

Non	a-Inventory	Repetitive	Subcontract	Shinment	A P	art ID				
Transfer	r Receipt	Issue	Adjustment	Cycle Count	ן   נ	8600				
Tunaro	- Hooopt	10000	/ ujuumont							
Part ID	3600	Description	24V Power Supply		1	Include Empty	2 Locations	Include C	Consignment L	ocations
Stock ID	MS	On Hand Before	50.00			Stock Ro	om Quantity	y Zone	Shared	Consign
Zone		Last CC Date	2/2/2020			1 MS	50	.00	V	
Juantity	0	Cost / I Init	165.00							
(uanity		COSt/ Offic	100.00							
GL Ref		CC Tolerance %	5							
Reference		CC Tolerance \$	0							
)ifference	-8250.00									
			-							
IDF Key		UDF Reference								
Proc	ess Clear	Logs	eceiver Help							
<u>Proc</u>	ess Clear	Logs Re III	ecei <u>v</u> er Help	Part [D	•	E <u>x</u> ception		eru	Clear	
<u>Proc</u>	Cjear	Logs Re III End MS	ecei <u>v</u> er	● Part ID ● Stock ID	•	Exception	Qu	ery Process	Clear	
Eroca Etart MS	ess Cjear	End MS	Zone Quantity	Part ID Stock ID Reference	GL Ref	Exception	Qu UDF Ref	ery Process Unit Cost	<u>C</u> lear Ext. Cost	
Eroca	art ID Descript	End MS	zoreiver Help Zone Quantiti	Part ID Stock ID Reference	GL Ref	Exception	Qu UDF Ref	Unit Cost 855.67	<u>C</u> lear Ext. Cost 855.67	
Eroca Start MS Pa 1 2100 2 2200	art ID Descript System Unit Cabinet	End MS ion Stock ID MS MS MS	zoeiver Help Zone Quantitit 9 9	Part ID Part ID Stock ID Reference 00 00	GL Ref	Exception	Qu UDF Ref	ery Process Unit Cost 855.67 76.91	<u>C</u> lear Ext. Cost 855.67 692.16	
Eroce Etart MS 2 2200 2 2200 3 23000	at ID Descript System Unit Cabinet Mother Board	End MS tion Stock ID MS MS MS MS	Zone Quantiti 9 1 9 10 0 0	Part [D     • Stock ID     Part [D     • Stock ID     Part [D     • Reference     00     00     00     00     00     00	GL Ref	UDF Key	Qu UDF Ref	Unit Cost 855.67 76.91 409.77	<u>C</u> lear Ext. Cost 855.67 692.16 4097.66 2000.00	
Etart MS 2 2200 2 2200 3 2300 4 2300B	art ID Descript System Unit Cabinet Mother Board PCB Kaubaard	tion Stock ID MS MS MS MS MS MS	Zone Quantiti 9 10 30 40 40 40 40 40 40 40 40 40 40 40 40 40	Part ID     • Stock ID     Reference     00     00     00     00	GL Ref	UDF Key	Qu UDF Ref	Unit Cost 855.67 76.91 409.77 110.00	<u>Clear</u> Ext. Cost 855.67 692.16 4097.66 3300.00	
Eroce Etart MS Pa 1 2100 2 2200 3 2300 4 2300B 5 3000 5 3000	art ID Descript System Unit Cabinet Mother Board PCB Keyboard Meeter	End MS MS MS MS MS MS MS MS MS	Zone Quantiti 30 10 30 44 44	Part ID Stock ID Reference 000 0	GL Ref	UDF Key	Qu UDF Ref	Unit Cost 855.67 76.91 409.77 110.00 110.00	Clear Ext. Cost 855.67 692.16 4097.66 3300.00 4840.00 20250.00	
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Eroce 2tart MS 2 2200 2 2200 3 2300 4 2300B 5 3000 5 3000 6 3100 7 3200 8 3250 9 3400 0 3500 1 3600 1 3600 2 3650 3 3700 4 3900	at ID Descript System Unit Cabinet Mother Board PCB Keyboard Monitor Floppy Disk 1.44 M Floppy CPU Metal 24V Power Sur Hardware Kit Memory Portable Monitor	tion Stock ID MS MS MS MS MS MS MS MS MS MS MS MS MS	Zone Quantita Zone Quantita 10 30 40 40 281 55 0 120 40 281 50 50 50 50	Part ID Part ID	GL Ref	UDF Key	Qu UDF Ref	ery Process 855.67 76.91 409.77 110.00 550.00 80.00 55.00 110.00 0.69 165.00 110.00 110.00 20.01	Clear Ext. Cost 855.67 692.16 4097.66 3300.00 4840.00 4840.00 6600.00 6600.00 4400.00 550.00 550.00 7150.00 4180.01	

*Figure 22. Lower pane provides multiple transaction processing capabilities (i.e., entire order)* 

- Create user-definable stockrooms that are either nettable or non-nettable for MRP.
- Maintain multiple stock locations per stockroom.
- All inventory transactions are available at the click of a button using a Tab dialogue.
- Instant online entry of receipts, issues, cycle counts, transfers, shipments, and adjustments.
- Transfer between stockrooms with one entry.
- Receive or Issue in decimal quantities.
- Optionally issue all components for an order with one transaction.
- Quickly make inventory Adjustments with one transaction to ensure accurate on-hand information.
- Use Cycle Count Logic for inventory accuracy improvements.
- Receive and issue both planned and unplanned material.
- Optionally print purchase order receiver documentation.
- Online warning messages alert you to out-of-tolerance and exception situations.
- All transactions contain user-definable fields.
- Optional support for Lot/Serial Tracking, Repetitive Manufacturing, and Transaction Load.



### Visual Transaction History — A Graphical Audit Trail

Figure 33. Graphically view a part's activity over time

- Quickly understand a part's activity without sorting through reams of data.
- See a visual representation of a part's activity over time.
- Line graph shows running inventory balance for a part over time.
- View a part's activity by type of transaction and date range.
- OLE enabled graphs allow you to link with any Windows application for management reports and presentations.

### Inquiries—Instantly Know Where It Is and How It Got There

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3	1100	Portable Com	puter	0.00	EA	FG		
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5	2200	Part Quantity			X	MS		
6	2300					MS		
7	2300	Part ID	1000			SPARES		
8	2300B					MS		
9	3000	Nettable	0.00			MS		
10	3100		1			MS		
11	3100	Non-Nettable	10.00			SPARES		
12	3200		-			MS		
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1 2 3 4	Part ID 3500 3500 3500 3500 3500	Description Metal Metal Metal Metal	Order 500000010000 500000030000	Date 02/02/2020 02/11/2020 02/10/2020 02/10/2020	Vendor	Quantity 192.00 320.00 70.00 70.00	UOM SF SF SF SF SF	None Stock ID MS MS MS MS	Type C C I	Balance 192.00 320.00 122.00 52.00	MAXID 100009 100082 100012 100016
1 2 3 4 5	Part ID 3500 3500 3500 3500 3500	Description Metal Metal Metal Metal Metal	Order 500000010000 50000030000 50000070000	Date 02/02/2020 02/11/2020 02/10/2020 02/10/2020 02/10/2020	Vendor	Quantity 192.00 320.00 70.00 70.00 70.00	UOM SF SF SF SF SF SF	None Stock ID MS MS MS MS MS	Type C C I I	Balance 192.00 320.00 122.00 52.00 6382.00	MAXID 100009 100082 100012 100016 100056
1 2 3 4 5 6	Part ID 3500 3500 3500 3500 3500 3500	Description Metal Metal Metal Metal Metal Metal	Order 500000010000 50000030000 50000070000 50000070000	Date 02/02/2020 02/11/2020 02/10/2020 02/10/2020 02/22/2020	Vendor	Quantity 192.00 320.00 70.00 70.00 70.00 38.50	UOM SF SF SF SF SF SF SF	None Stock ID MS MS MS MS MS MS	Type C C I I I I	Balance 192.00 320.00 122.00 52.00 6382.00 281.50	MAXID 100009 100082 100012 100016 100056 100083

*Figure 55. Display Transaction History Online visibility of inventory audit trail by part or by order number, allowing quick analysis of parts based on date and time stamp.* 

Figure 44. Display Stock by Location - Easily display all the parts in a stockroom or all the stockrooms where a part is stored.

# **Physical Inventory**

Know your stock with accurate inventory audits.

The MAX Physical Inventory Module (PIM) helps MAX customers conduct an accurate, coordinated physical inventory and produces a critical final audit trail report with posted variances by part number. The PIM windows, reports, and related programs offer a formal method of printing numbered physical inventory tags, collecting details of the physical inventory count, and updating the inventory data in MAX after verifying that this information is up to date for printing audit reports.

### **Precise Data Gathering**

In a closed-Loop MRP II system, a Physical Inventory has a significant impact. A completed Physical Inventory updates the current inventory balances for manufacturing operations. This affects both financial and MRP databases.

The MAX PIM provides audit trail reports, from initial input of counts and recounts to dollar variances and a final audit on the adjustments posted. The part stock records within MAX are then updated as a result. After posting the updates, the tag files may be retained for inventory audit purposes and troubleshooting up until the next count.

The PIM module is designed to be used to support an organization's physical inventory policy and procedures. Its flexibility provides various checks and balances to assure physical inventory process control.

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E <u>x</u> piration	· <mark>///</mark>	Dispositio <u>n</u>			

Figure 66. Maintain all relevant data gathered during the physical inventory.

With Physical Inventory, you can...

- Set the PIM Count Mode
- Freeze inventory

- Create Tag files
- Print Inventory Tags with bar codes.
- Conduct a physical inventory count.
- Enter Tag Data including Lot/Serial.
- Verify a Completed Inventory Count
- Run audit reports that will help you keep your process under control.
- Review and print reports
- Update on hand inventory data

### Variance by Part ID Inquiry

art ID	3500		Des	cription Me	al		ľ
Inclu	ide Uncoun	ted Location:	s				
Inclu	ide Uncoun	ted Location:	8				

Figure 17. Review count variances throughout the process

Throughout the physical inventory process, and before updating MAX data files with physical inventory count information, multiple inquiries and reports may be used to manage the process (i.e., find uncounted missing tags, review current physical count quantities, run a count variance, etc.). Reports should be processed in accordance with company policy and direction after a successful update has been processed.

### Reports

### **Uncounted Inventory Reports**

This report will provide a list of parts that have on-hand balances in MAX and were not counted during the physical inventory. A varied selection is available, listing by part identifier, stock ID/work center, order number or planner. Cost data may be included, and you may limit the range of part identifiers selected when using this report.

### **Part Exception Reports**

Provides exceptions, variances of dollar or quantity between the on-hand book count and the actual physical inventory input from the tag. It includes both positive and negative values and is presented in a descending order per selection criteria. The positive and negative values are absolute numbers and will list on the report alternating between the highest number regardless of the plus or minus value.

You may also sort the parts in descending cost or quantity value by the planner code listed in MAX. The report will then list all part numbers in descending value (quantity or dollar) by planner responsibility.

Another sort option is to print the report in descending cost or quantity value by the commodity code. This option lets you select a dollar or quantity level above which you wish to see the variances between on-hand and actual physical count. Pinpointing the level focuses management action on the higher dollar or quantity variances.

### **Counted Tag Reports**

This report provides a detailed listing of all the tags counted for a particular stock location, work center, or commodity code. The report can be all or designated part numbers and may include related cost data. Cost data available as an option includes material value, material overhead, labor value, labor overhead, and total value of the inventoried material in a stockroom.

### **Detail Parts Reports**

This report provides a detailed part identifier list for parts in sequential order that includes all stocking locations and work centers. It shows parts with only on-hand balances from the Tag Work file and parts with physical counts from the Tags Detail file. Count and Cost Variances may be requested with totals for each part per stockroom. A specific part identifier range may also be requested, limiting the report size.

### **Update and Purge Files**

revious tag data	<ul> <li>A productive set of the second products of the first set of the first of the first</li></ul>
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🔽 Update On-H	and Values 🛛 Create Part/Stock Records
📃 Purge Tag F	les
Exception Repo	rt
<b>WRMSERVER</b>	LOG\MAX Getting Started\Purge1
Progress	
Status	Process

Figure 18. Post actual counts, update stock on hand records and produce detailed transactions for what has changed.

Used to complete the Physical Inventory Cycle, this feature allows for MAX inventory to be adjusted with the final physical inventory counts.

Now there is an easier, more effective way to conduct a physical inventory count. Enhance your MAX System with the MAX Physical Inventory Module today!

# Lot/Serial Tracking

Maintain Lot/Serial Traceability Required for FDA, FAA, and Federal Contract Compliance

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1         0001         3.00         V         1           2         0005         4.00         V         1           3              1<	Lo	ot Number	Quantity	Inventory	Expiration	Override	Quar	Assoc	Disposition	Notes
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Figure 19. Assign Lot and Serial Numbers at the Transaction Level and Link to Process Documentation

Use Lot/Serial Tracking to assign, monitor and control lot and/or serial numbers assigned to MAX components and finished goods. MAX builds and maintains an audit trail for all parts under lot and/or serial control by tracking lot and serial numbers at the transaction level. MAX provides instant access to all information captured for a specific lot/serial number from its receipt to stock until its shipment to a customer.

- Lot/serial strategy determined by parts or by groups of parts.
- Higher level of information collected on transactions (i.e., which lot/serial number?).
- Calculate lot/serial expiration dates based upon defined shelf life.
- Color-coded expiration dates clearly identify expired or near expiration lot/serial numbers.
- Disposition field provides quick reference to lot/serial number status.
- Quarantine logic stops all shipments and issues until quarantine is removed.
- Associate function allows you to attach any document or file to a lot/serial number for system-wide tracking.
- Automatically quarantine parts upon receipt from a vendor.
- Link important notes to any lot/serial number.
#### MAX Lot and Serial Tracking Supports...

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Faitib	SIUCK ID		Lone							
4100	MS									
C Quantity										
Transaction	Total	Diff	erence							
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Figure 20. Assign lots to parts as they are received. Any transaction requires identification of the lot.

- Tracking and control of parts using lot and/or serial numbers.
- Alphanumeric lot/serial numbers.
- Assign lot/serial numbers before or after manufacturing.
- Automatically generate lot and/or serial numbers on work orders.
- Lot/Serial Number Range function allows quick selection of lot/serial numbers upon receipt of material.
- MAX Data Collection System (bar coded).
- Repetitive Manufacturing.

#### **Lot Transaction History**

Sort By Ran Start 4100 End	Part ID ge With ) With	•	Query	Dates Start 3/17/20 End 3/17/20 All V	120	Transaction ▼ <u>A</u> - Adjustr ▼ <u>C</u> - Cycle t ▼ <u>F</u> - Transfr ▼ <u>1</u> - Issues ▼ <u>P</u> - Post O	Types ments Counts ers From p. Partial		/ <u>R</u> - Recei / <u>S</u> - Shipm / I - Transf / Y - Scrap / Q - Post (	pts ents ers To )p. Com	v J - Reassi p.	gn Order <u>N</u> one		
	Part ID	Description	Lot	Order	Туре	Date	Quantity	Assoc	Stock ID	Quar	Cust/Vendor	Actual Cost	User Name	
1	4100	Hard Disk	0001	4	C	03/17/2020	3.00	0	MS	1		0.00	MANAGER	
2	4100	Hard Disk	0005		С	03/17/2020	4.00		MS	1		0.00	MANAGER	
3	4100	Hard Disk	L-1	700000170101	B	03/17/2020	2.00		MS	1	007	700.00	MANAGER	
4	4100	Hard Disk	0001	300000180000	1	03/17/2020	3.00	1	MS			0.00	MANAGER	
Б	4100	Hard Disk	1-1	300000180000	1	03/17/2020	2.00	100	MS	100	1	0.00	MANAGER	

Figure 21. Display the Complete Lot/Serial Transaction History or Any Part of the Picture

- Captures a Complete Transaction History of Each Numbered Part
- Look-up lot/serial transactions by part ID, order number, serial number, or lot number.
- Zoom in on Lot/Serial Transactions by date range and/or transaction type, limiting "information overload ".
- Select all or up to 10 specific transaction type records.

#### **As-Built Configuration**

		Part	Lot	Serial	Order	្រាប
Sales Order Shipment Shop Receipt	Select	1 4100	L-1		0.001	2
Order Number 700000170101	All					
		4				
				1111		
Shop Odr: 700000170101 S0:						
Shop Odr: 700000170101 S0:				m		

Figure 22A. Order information is shown with lot transactions.

	ort Part ID	Query Ran 41 En 41	ge art With 00 d With 00		Er All	ate art 3/17/2021 nd 3/17/2021						
2	Part ID	Description	Lot	Serial	Expiration	Order	Туре	Date	Quantity	Assoc	Stock ID	Quar
1	4100	Hard Disk	L-1			300000180000	1	03/17/2020	2.00		MS	<u></u>
2	/100	Hard Disk	0001			300000180000	1	03/17/2020	3.00		MS	1001

Figure 22B. A "Where-Used" Inquiry for Lot/Serial Controlled Parts

Shows Which Lot and Serial Numbered Parts Were Used to Build Specific Products

- Double-click a lot or serial number displayed in the transaction history to view the As-Built Configuration.
- Implosion logic easily locates all finished goods that included a particular lot/serial-controlled component and identifies customer orders affected by discrepant material as required by FDA, FAA, and government contract suppliers.
- Quickly search by Lot Number, Serial Number, Order Number or Part ID
- Serial number nesting provides complete visibility of all component serial numbers used to manufacture a serial controlled parent part.
- Explosion logic provides quick access to all component lots used to make a particular finished good to locate possible discrepant component lots.
- Join new component lot/serial numbers to parent lot/serial numbers for complete Configuration Management without the overhead of full top-to-bottom lot/serial tracking.
- Automatically record As-Built Configurations as you issue material to shop orders.

## **Recall Management**

The Recall Management Module was written for when you need to quickly identify the scope and complexity of a recall situation, should you experience a product recall. When coupled with Lot/Serial Tracking, is an effective way to analyze large volumes of data so that decisions can be made.

- Accurately account for all affected items.
- Multiple filter criterion allows for narrowing down data returned in search.
- Pulls all transaction history, or lot/transaction history for the part, lot, or serial number.
- Shows status of item, including in stock, on floor, consumed (i.e., issued to another order) or recall (item has been shipped to customer).
- Saving the query records a snapshot of all parts affected and their locations.
- Assigns a recall identifier for managing the situation.
- Notes may be added.
- Documents relevant to the recall may be associated.
- Cost the recall anytime and/or after it is closed.

Recall Manage     Part ID     4100     Recall ID     Supply Orders     All     Range     Individual	er 1 Dates © Re © Iss	<sub>ceipt</sub> Start Le End A <u>l</u> l	3/17/202 3/17/202	Contractions of the second sec	umber All Range Individual Number All Range Individual					5 Cutoff Query TOTAL - Cor TOTAL - Sto TOTAL - Floc TOTAL - Floc GRAND TOT	Days VIn VI sumed ck 15- rall or 19; AL 34	clude Non Lot/Serial Transa se Current Customer Address clude Costs 0.00 40.00 0.00 25.00 55.00	ctions
Part ID	Lot Number Se	ial Stat	us Quantity	Cost	Extended Cost	Shop Order Number / Stock ID	Parent Part	Parent Lot Number	Parent Serial Number	Sales Order Number	Company ID	Company Name	
1 4100	0001	Flor	or 3	385.00	1155.00	300000180000	1200						
2 4100	0005	Stor	sk 4	385.00	1540.00	MS							
3 4100	L-1	Flor	or 2	385.00	770.00	300000180000	1200						
4										~			

Figure 23C. The Recall Manager allows you to see where all the items in a lot are located so action can be taken.

Management action is oriented around the status code. For example, transfer existing stock to a quarantine stockroom, place WIP on hold, notify customers receiving shipped items, etc.

## Purchasing

Drag & Drop MRP-generated orders and Purchase Requisitions directly to the Purchase Order Form and then email the completed purchase order to suppliers.

- Purchase Requisitions
- Paperless Purchasing
- WYSIWYG PO Form
- Standard Notes
- Online Inquiries and reports
- Context Sensitive Help

Purchasing Control allows you to create purchase orders, track purchased materials, and maintain solid vendor information and accurate cash requirements. Now you will know exactly what a part will cost, when you can get it, and from which approved vendors. This module also gives you "Information at Your Fingertips," helping you make the most cost-effective decisions and enabling you to accurately control all your purchasing requirements.

#### Purchasing Schedule—Paperless Work Environment

Planner/buyers work directly from the purchase schedule where data can easily be sorted and processed.

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	Urder 40001749	Del	Type	Status	Part ID	Description	Vendor	Quantity 22.470E	UUM	MRP Due Date	E	Start Date	100 0000	2247.9E20.010	PLIN	Lom	Eng Status	MPN Part	Manuracture -
2	40001740	00	PI	1	3400	CPU	005	11 1111	EA		5	02/13/2020 \$	125,0000	1399 9997 010	000	Elec	2	PT-500SY	Intel
2	40001073	00	PI	1	2300B	PCB	007	18,0000	FA	03/19/2020	20	02/20/2020 \$	100 0000	1800.0007 010	000	Elec	2	11-3003/5	ITROI
4	40001840	00	PI	1	3600	24V Power Supplu	009	19,000	FΔ	03/12/2020	10	02/27/2020 \$	150.0000	2850.0000.010	000	Flec	2	ILP-3600	Illinois Power
5	40001880	00	PL	1	3400	CPU	006	22.2222	EA		5	02/27/2020 \$	125,0000	2777.7774 010	000	Elec	2	PT-500SX	Intel
6	40001853	00	PL	1	4100	Hard Disk	007	5.0000	EA		5	03/02/2020 \$	350.0000	1750.0000 010	000	Elec	2	SX-1G	Conner
7	40001855	00	PL	1	2300B	PCB	007	22.2222	EA	04/02/2020	20	03/05/2020 \$	100.0000	2222,2219 010	000	Elec	2		
8	40001866	00	PL	1	3250	1.44 M Floppy	006	3.0000	EA	03/12/2020	5	03/05/2020 \$	100.0000	300.0000 010	000	Elec	2	350BL	Verbatim
9	40001798	00	PL	1	3800	Portable Keyboard	004	5.0000	EA		5	03/09/2020 \$	65.0000	325.0000 010	000	Elec	2	6511-TW	Acer
10	40001841	00	PL	1	3600	24V Power Supply	009	20.0000	EA	03/26/2020	10	03/12/2020 \$	150.0000	3000.0000 010	000	Elec	2	ILP-3600	Illinois Power
11	40001881	00	PL	1	3400	CPU	006	50.0000	EA	03/19/2020	5	03/12/2020 \$	125.0000	6250.0000 010	000	Elec	2	PT-500SX	Intel
12	40001786	00	PL	1	3100	Monitor	008	15.0000	EA	04/02/2020	10	03/19/2020 \$	500.0000	7500.0000 010	000	Elec	2	V75	Optiquest
13	40001856	00	PL	1	2300B	PCB	007	22.2222	EA	04/16/2020	20	03/19/2020 \$	100.0000	2222.2219 010	000	Elec	2		
14	40001867	00	PL	1	3250	1.44 M Floppy	006	40.0000	EA	03/26/2020	5	03/19/2020 \$	100.0000	4000.0000 010	000	Elec	2	350BL	Verbatim
15	40001842	00	PL	1	3600	24V Power Supply	009	20.0000	EA	04/09/2020	10	03/26/2020 \$	150.0000	3000.0000 010	000	Elec	2	ILP-3600	Illinois Power
16	40001882	00	PL	1	3400	CPU	006	22.2222	EA	04/02/2020	5	03/26/2020 \$	125.0000	2777.7774 010	000	Elec	2	PT-500SX	Intel
17	40001787	00	PL	1	3100	Monitor	800	20.0000	EA	04/16/2020	10	04/02/2020 \$	500.0000	10000.0000 010	000	Elec	2	V75	Optiquest
18	40001857	00	PL	1	2300B	PCB	007	22.2222	EA	04/30/2020	20	04/02/2020 \$	100.0000	2222.2231 010	000	Elec	2		
19	40001868	00	PL	1	3250	1.44 M Floppy	006	40.0000	EA	04/09/2020	5	04/02/2020 \$	100.0000	4000.0000 010	000	Elec	2	350BL	Verbatim
20	40001843	00	PL	1	3600	24V Power Supply	009	20.0000	EA	04/23/2020	10	04/09/2020 \$	150.0000	3000.0000 010	000	Elec	2	ILP-3600	Illinois Power
4																			
	Qu	iery				Delete Line				Assign			Undo Drag-Drop	2		Aų	to Assign		

Figure 24. Assign purchase requisitions and planned orders to existing PO or Auto-assign to a new order.



Figure 25. Online planning, approval, and assignment of MRP generated orders and Purchase Requisitions in a paperless environment

- Drag & Drop MRP-generated orders & Purchase Requisitions directly to the Purchase Order Form.
- Require MRP-generated orders to be approved before assigning them to PO's.
- Allow input of purchase requisitions (inventoried and non-inventoried) by other departments.
- Display MRP-generated orders and Purchase Requisitions in a spreadsheet grid.
- Select only the orders you want to view with extensive filtering and date range capabilities.
- Customize the layout of the Purchasing Schedule grid based on user preferences.
- Flexible record selection criteria allow processing of bulk or specific orders.
- Problem orders are displayed in red and yellow for quick identification.
- Drill down on cells within the grid to view more detailed information.
- Select, Maintain and Auto-Assign MRP-generated orders to either new or existing POs, eliminating the need to use Purchase Requisitions if desired.
- Browsable fields are quickly identified by an active cursor which changes when passing over a "HOT SPOT" on the PO Form.

#### Purchase Orders — Enter Orders on a WYSIWYG Form

								Pu	rcha	ase	e O	rde	er
							( <b>Orde</b> 7000	0017	3/17/20	<b>-</b> 120	Vendo 007	or -	
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	Confirr	ming		T	erms	15		Ship Vi	a			FOB	
Buy	ver	F	Requisitioner	NET	30 DAYS	Ship Instru	uctions	PS - GRU	IUND I	Remarks		Urigin	lore
00	0 0uantitu	linit	Part ID	Des	r Dr	e orintion /Note	an	Linit D	rica	Est Dr	tica	Due	Data A
				dhe									
		0.1.11.1		1.15.11			Tai		¢ 1750.00	1			-
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re 26. E. Master OR ID 007 NET 30 a Qubie act 415555 415555 415555 5 3 3 3 3 3 3 3 3 4 5 5 5 5 5 4 5 5 5 5	nter dir IDAYS -3333 -3334 ale Aho 2, CA 93010	ectly on th	Re PO form	1 4809 Cale Al Camarilo CA 33010 415 555 3333 415 555 3333 data service and the service dor Part Number ond Part Descript	Status A - Ar o	ztive •	Vendo Ver Mig Ma Ver Car Ver Taa Car Ver Taa Subb Baa Subb Baa Subb Baa Price Qu Qu Qu Fig U R Appri	r Part Data dor (s P/N) nufacturer dor Name kact Name t Description rency \$ dor's Part # Code r Delined ontract Charge Break Informa antity 1 antity 2 antity 3 Close r Close r Close	007 SX-16 Conner Qubie Hard Disk US DOLLARS 0 0 0 0 0 0 0 0 0 0 0 0 0	informa what por	Part # 4100 m MPN String te De ation an arts	Status Vendor Type Vendor Status Vendor Status Vendor Phone Purchases YTD Purchases YTD PO Count User Defined Reference Service ID Price/Unit 1 Price/Unit 2 Price/Unit 3 state	Part           Master           A - Active           N - Normal           - Active           A - Active           145-555-3333           M           EA           2000           415-555-3333           4           2000           4           0           0.0000

- PO Form is designed to maximize the workspace by having all relevant data easily accessible (e.g., price break information).
- Schedule up to 99 parts per order and 99 deliveries per part.
- Include specific order or line-item notes.
- Maintain separate stocking and purchasing units of measure.
- Purchase non-manufacturing parts as well as inventoried items.
- Know which vendors provide the parts you need, what their delivery track records have been, and how their prices compare.
- Take advantage of quantity/price breaks for a particular item with Blanket Purchase Orders.

• Optional support for Multi-currency, Subcontract Processing and Manufacturer's Part Control.

Inquiries—Get Answers to Your Questions Fast

eview b	y .	Order	Туре —	1995		2210		1							
/endor	Ŧ	<u> </u>	iventory F	Parts 📃 <u>N</u> or	n-Inventory Parts	📃 <u>S</u> ubcon	tract Parts								
tart with	Vendor							,							
07		Includ	de ——		a <u></u>										
nd with '	Vendor	🗖 S	tatus 4 0	rders (Complet	ted) 📃 Notes		Jely								
107		S S	tatus 5 O	rders (Closed)		Oper	Order								
007		Si Si	tatus 5 0 tatus 6 0	rders (Closed) rders (Cancelle	ed)	Oper	n Order								
007 ]] Displa	ny PO Due Dat	Si Si	tatus 5 0 tatus 6 0	rders (Closed) Irders (Cancelle	ed)	<u>O</u> per	n Order								
)07 ] Displa	y PO Due Dat	e Line	tatus 5 0 tatus 6 0 Del	rders (Closed) rders (Cancelle Vendor ID	ed) Part Identifier	Date	Order Qty	Balance Due	Status	Cost/Unit	UOM	MPN Part	Manufacture	Rev Level	
007 Displa 1	y PO Due Dati Order 70000007	E Line	tatus 50 tatus 60 Del 01	rders (Closed) rders (Cancelle Vendor ID 007	ed) Part Identifier 23008	Date 02/20/2020	Order Qty 17.00	Balance Due 17.00	Status 3	Cost/Unit 100.00	UOM EA	MPN Part	Manufacture	Rev Level	
107 Displa 1 2	y PO Due Date Order 70000007 70000007	Line 01 01	tatus 5 0 tatus 6 0 Del 01 02	rders (Closed) rders (Cancelle Vendor ID 007 007	ed) Part Identifier 2300B 2300B	Date 02/20/2020 03/05/2020	Order Qty 17.00 25.00	Balance Due 17.00 25.00	Status 3 3	Cost/Unit 100.00 100.00	UOM EA EA	MPN Part	Manufacture	Rev Level A	
007 Displa 1 2 3	y PO Due Date Order 70000007 70000007 70000007	Line 01 01 01	tatus 5 0 tatus 6 0 Del 01 02 03	rders (Closed) rders (Cancelle Vendor ID 007 007 007	Part Identifier 23008 23008 23008	Date 02/20/2020 03/05/2020 03/19/2020	Order Qty 17.00 25.00 25.00	Balance Due 17.00 25.00 25.00	Status 3 3 3	Cost/Unit 100.00 100.00 100.00	UOM EA EA EA	MPN Part	Manufacture	Rev Level A A A	

Figure 29. Examine current PO delivery schedule information at any time in a detailed format.

- Display inventory orders, non-inventory orders, or subcontract orders.
- Review POs by Order Number, Vendor, Part ID, Blanket PO, or Date Range.
- Include Order Notes.
- Open a PO by double clicking a displayed order.

#### **Reports—Instant Access to Critical Information**

MAX uses the #1 award winning reporting tool, Crystal Reports, as the engine for standard reports. All reports are customizable and have extensive sort and filtering capabilities, giving access to information you need in the format you are used to.

Cashi	the second se			and the second se	-				
ousin	Requirements F	(e	port By Ven	doriden	tifier				
PartDescription	VendorID S	F	OrderNumber	CurrQty	UM	Due Qty Due Date	PrmDate	BUY	PLN Ord
d 004	A	Y	70000005-01-01	6.00	EA	6.00 2/20/2020	2/20/2020	010	000 450.0
006	A	Y	7000006-01-01	6.67	EA	6.67 2/20/2020	2/20/2020	010	000 833.3
isk 007	A	Y	70000002-01-01	40.00	EA	40.00 2/13/2020	2/13/2020	010	0001000.0
isk 007	A	Y	7000002-01-02	40.00	EA	40.00 2/27/2020	2/27/2020	010	0001000.0
007	A	Y	70000007-01-01	17.00	EA	17.00.2/20/2020	2/20/2020	010	0001700.0
008	A	Y	70000008-01-01	5.00	EA	5.00 2/20/2020	2/20/2020	010	0002500.0
	PartDescription           1         004           006         006           isk         007           isk         007           006         007	PartDescription         Vendor/ID         S           d         004         A           006         A           isk         007         A           isk         007         A           007         A         007           008         A         008	PartDescription         VendorID         S         F           1         004         A         Y           006         A         Y           isk         007         A         Y           isk         007         A         Y           007         A         Y           008         A         Y	PartDescription         Vendor ID         S         F         Order Number           1         004         A         Y         70000005-01-01           006         A         Y         70000006-01-01           isk         007         A         Y         7000002-01-01           isk         007         A         Y         7000002-01-02           007         A         Y         7000002-01-02           007         A         Y         7000002-01-02           008         A         Y         7000008-01-01	PartDescription         Vendor/D         S         F         OrderNumber         CurrQty           1         004         A         Y         70000005-01-01         6.00           006         A         Y         70000006-01-01         6.67           isk         007         A         Y         7000002-01-01         40.00           isk         007         A         Y         7000002-01-02         40.00           007         A         Y         70000002-01-01         17.00           007         A         Y         70000002-01-01         5.00	PartDescription         VendorID         S         F         OrderNumber         CurrOty         UM           1         004         A         Y         70000005-01-01         6.00         EA           006         A         Y         70000006-01-01         6.67         EA           006         A         Y         70000002-01-01         40.00         EA           isk         007         A         Y         7000002-01-02         40.00         EA           007         A         Y         7000002-01-01         17.00         EA           007         A         Y         70000002-01-01         5.00         EA           008         A         Y         70000008-01-01         5.00         EA	PartDescription         Vendor ID         S         F         Order Number         Curr Qty         UM         Due Qty         Due Date           1         004         A         Y         70000005-01-01         6.00         EA         6.00 2/20/2020           006         A         Y         70000006-01-01         6.67         EA         6.67 2/20/2020           isk         007         A         Y         70000002-01-01         40.00         EA         40.00 2/13/2020           isk         007         A         Y         70000002-01-02         40.00         EA         40.00 2/27/2020           007         A         Y         70000002-01-01         17.00         EA         17.00 2/20/2020           007         A         Y         70000002-01-01         17.00         EA         17.00 2/20/2020           008         A         Y         70000008-01-01         5.00         EA         5.00 2/20/2020	PartDescription         Vendor/D         S         F         Order Number         Curr/Qty         UM         Due Qty         Due Date         Prm Date           1         004         A         Y         70000005-01-01         6.00         EA         6.00 2/20/2020         2/20/2020         2/20/2020           006         A         Y         70000006-01-01         6.67         EA         6.67 2/20/2020         2/20/2020         2/20/2020           isk         007         A         Y         70000002-01-01         40.00         EA         40.00 2/13/2020         2/27/2020         2/27/2020         2/27/2020           isk         007         A         Y         70000002-01-02         40.00         EA         40.00 2/27/2020         2/27/2020         2/27/2020           isk         007         A         Y         70000002-01-02         40.00         EA         40.00 2/27/2020         2/27/2020           007         A         Y         70000002-01-01         17.00         EA         17.00 2/20/2020         2/20/2020           008         A         Y         70000008-01-01         5.00         EA         5.00 2/20/2020         2/20/2020	PartDescription         Vendor D         S         F         Order Number         Curr Qty         UM         Due Qty         Due Date         Prm Date         BUY           1         004         A         Y         7000006-01-01         6.00         EA         6.00 2/20/2020         2/20/2020         010           006         A         Y         7000006-01-01         6.67         EA         6.67 2/20/2020         2/20/2020         010           isk         007         A         Y         7000002-01-01         40.00         EA         40.00 2/17/2020         2/17/2020         010           isk         007         A         Y         70000002-01-02         40.00         EA         40.00 2/27/2020         2/27/2020         010           isk         007         A         Y         70000002-01-02         40.00         EA         40.00 2/27/2020         2/27/2020         010           isk         007         A         Y         70000007-01-01         17.00         EA         17.00 2/20/2020         2/20/2020         010           008         A         Y         7000008-01-01         5.00         EA         5.00 2/20/2020         2/20/2020         010

Figure 30. The Cash Requirements Report enables you to see what your cash requirements will be by month, using expected delivery dates and cost per line item.

											Pa	ge 1
		Dispate	h R	еро	ortE	y Vendor Id	entifier					
PartIdentifier	PartDescription	Venid	S	F	UM	OrderNumber	Bal Due Qty	CurrQty	PO Date	PrmDate	BUY	PLN
3500	Metal	002	4	Y	SH	70000004-01-01	0.00	200.00	2/24/2020	2/24/2020	010	000
3000	Keyboard	004	3	Y	EA	70000005-01-01	6.00	6.00	2/20/2020	2/20/2020	010	000
3000	Keyboard	004	3	Y	EA	70000012-01-01	20.00	20.00	4/16/2020	4/16/2020	010	000
3000	Keyboard	004	3	Y	EA	70000012-01-02	20.00	20.00	9/3/2020	9/3/2020	010	000
3000	Keyboard	004	3	Y	EA	70000016-01-01	15.00	15.00	3/19/2020	3/19/2020	010	000
3000	Keyboard	004	3	Y	EA	70000016-01-02	20.00	20.00	4/2/2020	4/2/2020	010	000
3700	Memory	005	3	Y	EA	70000010-01-01	100.00	100.00	3/19/2020	3/19/2020	010	000
3700	Memory	005	3	Y	EA	70000015-01-01	100.00	100.00	8/13/2020	8/13/2020	010	000
3400	CPU	006	3	Y	EA	70000006-01-01	6.67	6.67	2/20/2020	2/20/2020	010	000
3200	Floppy Disk	007	4	Y	EA	70000001-01-01	0.00	80.00	2/13/2020	2/10/2020	010	000
3200	Floppy Disk	007	3	Y	EA	70000002-01-01	40.00	40.00	2/13/2020	2/13/2020	010	000
3200	Floppy Disk	007	3	Y	EA	70000002-01-02	40.00	40.00	2/27/2020	2/27/2020	010	000
2300B	PCB	007	3	Y	EA	70000007-01-01	17.00	17.00	2/20/2020	2/20/2020	010	000
2300B	PCB	007	3	Y	EA	70000007-01-02	25.00	25.00	3/5/2020	3/5/2020	010	000
2300B	PCB	007	3	Y	EA	70000007-01-03	25.00	25.00	3/19/2020	3/19/2020	010	000
4100	Hard Disk	007	3	Y	EA	70000017-01-01	5.00	5.00	3/9/2020	3/9/2020	010	000
3100	Monitor	008	3	Y	EA	70000008-01-01	5.00	5.00	2/20/2020	2/20/2020	010	000
3100	Monitor	008	3	Y	EA	70000008-01-02	20.00	20.00	3/5/2020	3/5/2020	010	000
4180	1TB Hard Drive	008	3	Y	EA	70000011-01-01	45.00	45.00	3/26/2020	3/26/2020	010	000
2200	Cabinet	010	4	Ν	EA	70000003-01-01	0.00	20.00	2/10/2020	2/10/2020	010	000
2200	Cabinet	010	4	Ν	EA	70000003-02-01	0.00	20.00	2/10/2020	2/10/2020	010	000

Figure 31. The Dispatch Report lists Purchase Order details for immediate vendor follow up and identification of data.

#### Standard Notes—Make Sure Your Vendors have all the Data

Automatically attach standard notes to print on POs for...

- All orders
- Specific parts
- Specific part and vendor combinations
- Specific vendors

Standard PO Notes	for Vendors	×	Standard PO Note	es for Parts	×
Vendor	007		Part ID	3600	
Vendor Description	Qubie		Part Description	24V Power Supply	
Please inclu orders and p	ude our part numbers on all purchase backing lists.	*	Please make for 120V&C	e certain that the supply is jumpered use.	•
Action	Save Help		Action —	Close Save Help	

Standard	PO Notes for Parts and Vendors	×	Standard PO Notes for Orders	X
Part ID	3600		Please note that we will be closed the week of July 20, 2020. Please ship all orders for that	-
Vendor	009		week to arrive Friday, Suly 17, 2020.	
Please for 12	a make certain that the supply is jumpered	•	Action Close Save Help	•
Action -	Close Save Help			

Figures 32A to D. Standard notes automatically appear on purchase orders, providing additional important information.

## Subcontract Processing

Track work to that cannot be performed in house to outside service providers. Common examples include where components are provided to a supplier for special processing (i.e., anodizing, plating, heat treating, board stuffing, sterilization, etc.).

The Bills of Material Method is used when material is provided to suppliers and they perform 100% of the service. In this case, the part number changes for the part returned. These types of subcontract orders are typically managed by purchasing as they are purchase orders with a pick list.

Procure necessary services with precise control between you and your suppliers.

- Assign a subcontract standard cost and keep that cost component separate from material, labor, and overhead components.
- Use MRP to plan subcontracted component requirements.
- Control inventory and material track shortages
- Let MAX generate subcontractor purchase requisitions/orders.
- Issue components to the subcontract purchase order.
- Capture costs at every step.

				Sul	oco	ntract	PO	)
				Order No 70000019	3/17/20	20 Vendor 20 007	Rev 000	
Vendor	Qubie 4809 Calle Alto Camarillo, CA 93010			Ship To	I 20 Cameron R orristown N	oad		
	Confirming	T NET 3	erms 30 DAYS	Ship Vi UPS - GRO	a IUND	FI	DB	7
Buye 000	r B	equisitioner	Ship Instru	ictions	F	Remarks	<u>M</u> ore	
ine DL	Quantity Unit	Part ID Rev	/ Description/Note	es Unit P	rice	Ext. Price	Due Date	
01 01	50.00 EA 3200	с	Floppy Disk		25.0000	1250.00 0.00	03/17/2020 03/17/2020	

Figure 33. Familiar, intuitive subcontract purchase order form

Ord Num	700000	190101	Type SO ·	Subcontract Order	T		Reference					
Part ID	3200		Part Desc Flop	oy Disk			Sched			+		
Status	3 - Rele	ased 🔹	Cur Qty	50			Pri Stk	MS				
Cur Due	3/17/	2020	Ext Qty	50		1	Rev Level	С				
Drig Due	3/17/	2020	Bal Due	50		1	Priority					
_ot			Key Reference					Query				
Serial												
Serial Bill		Iternate Code	1					🔽 Blow T	hrough Ps	eudo		
Bill Include	A Status	Iternate Code	Descriptio	n Cur Qty	Bal Due	Cur Due	LT Offset	V Blow T	hrough Psi Shortage	eudo On Hand	Qty Per	-

Figure 34. The subcontract PO pick list may be edited like a shop order.

Non-Ir Transfer	nventory Receij	Pt Re	epetitive Issue	Adjustme	Subcontract Sh nt C	hipment Cycle Count	Part ID 3200					
Subcontract	*		Insp. Rqrd.	Or	Hand Before	0.00	🔽 Include	Empty Locat	ions 📃	Include Co	nsignment Lo	ocations
Part ID	3200			Descr	Floppy Disk		Stoc	k Room G	Juantity	Zone	Shared	Consignn
Order #	700000190101		Vendor	Qubie			1 MS		0.00		V	
Receipt Date	3/17/2020	Planner ID	000 Pur/L	Jom EA	Receipt Cost	t 0						
Due Date	3/17/2020	Buyer ID	010 Bom/L	Jom EA	Cost /Unit	t 25.0000						
Stock ID	MS	Zone		Alterna	te D							
	0	Balance	50.00	Ref.	and the							
Quantity	U	Due		1000000000		1.575763						
GL Ref.	U	Due UDF Key		UDF R	ef.							
GL Ref. MPN		Due UDF Key	Manufacture	UDF R	ef.							

Figure 35. Issue components and ship BOM subcontract orders using inventory module transactions.

## **Repetitive Manufacturing**

Repetitive Manufacturing provides, in a single transaction, the capability to receive a finished item and "backflush" all the component items required to build that assembly. This is ideal for higher volume environments, or those that are practicing Lean Manufacturing techniques, where shop orders are no longer required, thereby eliminating time-consuming order processing, and providing a paperless environment.

- Support Lean Manufacturing (formerly Just in Time)
- Backflush By part or by order
- Paperless Environment
- Report Repetitive Scrap
- Lot/Serial Tracking
- Complete Audit Trail
- Flexible Processing

Transfe Nor	r n-Inventory	Receipt	R	lssue Repetitive	Adjus	tment Subcontract	Cycle Count Shipment	Part ID 2200					
Repetitive Part ID Receipt Quantity Stock GL Ref. UDF UDF Ref.	* 2200 MS	Description	Cabine	Receipt Date Pur/Uom Zone	3/17/202 EA	0 On Hand Before Bom/Uom Planner ID Buyer ID Cost /Unit	9.00 EA 000 000 76.91	Inclusion S 1	de Empty Lo ock Room S	cations	Include Con:	Signment Lo	cations Consignme
Proc	ess	Cļear		Logs	Receive	Help							

#### **Repetitive Transaction—One Simple Step**

*Figure 36. Backflush by part identifier and eliminate the need for shop orders.* 

- Optionally use Repetitive Manufacturing for some or all your parts, depending on your internal requirements.
- Receive finished items into inventory and issue all components required to build the final product in a single transaction.
- Quick data entry only requires the Parent Part ID and the quantity completed to process the transaction.
- Eliminates overhead intensive order processing and reduces WIP.
- Maintains complete transaction history information for auditing and control purposes.
- Significantly reduces the costs of tracking requirements for parts or products that do not need complex control procedures.
- Produce finished products without the need of generating work orders, allowing you to reduce processing time and paperwork without compromising data integrity.

- Requires less than half of the normal processing time of using conventional shop orders.
- Quickly review repetitive transactions with the Transaction History Report or Inquiry.
- Component stock can be issued from the primary (point of use) stock location or alternative (buffer stock) locations.
- Blows through phantom and pseudo parts while issuing components.
- Perfect for companies who use cellular manufacturing techniques.
- User Preference allows you to remove all cost information from view (for security purposes) while processing the transaction.
- Optional support for Lot/Serial Tracking.

Paperless Manufacturing

Figure 35. Paperless manufacturing.

#### **Repetitive Scrap Transaction — Flexible Scrap Processing**

<u>P</u> art ID	2200		Qty			1				Query	Process (	<u>D</u> lear
	Part ID	Description	Issue Qty	On Hand	Stock ID	Zone	Reference	GL Ref	UDF Key	UDF Ref	Unit Cost	Ext. Cost
1 3	3500	Metal	3.50	281.50	MS	<u> </u>	Repetitive sc		a		0.69	2.41 🔻
												•

Figure 37. Easily record repetitive scrap to keep accounting and component inventory accurate.

- Record actual scrap from repetitive cells in one transaction for increased inventory accuracy.
- Does not require an order number to scrap component items.
- Adjust scrap quantities for component parts on the bill.
- Accurately record by-products during the manufacturing process for recovery of expensive or hazardous materials.
- Requires entry of GL Account for accurate general ledger accounting.

#### Cellular Manufacturing—A Pull System

Boost productivity by creating a cellular manufacturing environment where workspaces are more closely coupled and include all necessary tools and materials within arm's reach. Production is only reported as units are finished, thereby reducing WIP inventories and increasing efficiencies.



Figure 38. Cellular flow, or any in-line production is a candidate for repetitive.

#### **Transaction History Inquiry**

Range     Start With       End With     Start       3/17/2020       All						ion Types — tments s s s pts s fers To s	Query Graph					
	Part ID	Description	Order	Date 4	Vendor	Quantity	UOM	Stock ID	Туре	Balance	MAXID	-
1	2100	System Unit		03/13/2020		1.00	EA	MS	C	1.00	100085	T
2	1000	Computer	200000030101	03/13/2020	· · · · · · ·	2.00	EA	FG	S	2.00	100086	
3	1000	Computer	200000010101	03/15/2020	i	1.00	EA	FG	S	1.00	100087	
4	1000	Computer	1	03/15/2020	i	4.00	EA	FG	С	4.00	100088	
5	1000	Computer	1	03/15/2020	i	2.00	EA	FG	С	2.00	100089	
6	1100	Portable Computer	1	03/15/2020	· · · · · · · · · · · · · · · · · · ·	2.00	EA	FG	С	2.00	100090	
7	1000	Computer	11	03/15/2020		4.00	EA	FG	С	4.00	100091	
8	1000	Computer	200000040101	03/15/2020	ii	4.00	EA	FG	S	0.00	100092	
9	1100	Portable Computer	200000040201	03/15/2020	· · · · · · · · · · · · · · · · · · ·	2.00	EA	FG	S	0.00	100093	
10	4100	Hard Disk	1	03/17/2020	· · · · · · · · · · · · · · · · · · ·	3.00	EA	MS	С	3.00	110094	
11	4100	Hard Disk	1	03/17/2020	i	7.00	EA	MS	С	7.00	110095	
12	4100	Hard Disk	700000170101	03/17/2020	007	2.00	EA	MS	R	9.00	110096	
13	2300	Mother Board	300000180000	03/17/2020	· · · · · · · · · · · · · · · · · · ·	10.00	EA	MS	I	0.00	110097	
14	4100	Hard Disk	300000180000	03/17/2020		5.00	EA	MS	1	4.00	110098	
15	2400	Portable System Lin	500000140000	03/17/2020		5.00	FA	MS	B	5.00	110099	1

Figure 39. Easily and accurately troubleshoot part balances through transaction detail.



Figure 40. Transaction History Inquiry — Adds RPM Part Receipt or RPM Part Issue flags in the reference field to identify these repetitive transaction types for auditing and control purposes.

## **Materials Summary**

Every materials management organization shares the goal of having the right part in the right place at the right and MAX's materials area is based upon true industry fundamentals. MAX tracks your entire inventory, and with the Physical Inventory module, it simplifies very that inventory is present. All transactions, regardless of if lot or serial tracking is used, have been designed to process individual or as groups (i.e., receive the entire PO from a pick list). Purchasing management is streamlined using the Purchasing schedule and the Repetitive manufacturing module helps process production completions where shop orders are not required. These features lower the overhead associated with operating MAX and using it to run your business. This Page Left Blank Intentionally

## Finance

See the dollar and cent impact from your operations in both MAX and your integrated accounting system. Accounting includes both product costing and operational accounting (i.e., debits and credits behind all transactions). The product costing process is part of Engineering, including routings. Multiple costs sets are supported, thus different views of the same inventory may be made.

On the operational side, leaders/managers of these areas must know the T-account flow for the operational transactions in their area, and more

## importantly, what action drives them. MAX follows the standard cost accounting model for discrete manufacturers.

- Accurately cost your products
- Run Variance Analysis
- Practice single point of entry for:
  - Sales accounts receivable cash collection
  - Purchase accounts payable payment flows
- Convert operational transactions into general ledger transactions.
- Report inventory asset values:
  - o Stockroom inventory
  - o WIP inventory
  - Material at supplier inventory
  - Execute Quick Journal Entry
- Multiple currency also exists for those that transact across international borders and currencies.

## **Financial Integration**

Regardless of the size of your company MAX and be electronically integrated to your accounting system reducing your overhead and saving you time and money.

- Sales Order Processing to Accounts Receivable
- Purchasing to Accounts Payable
- Costing module (inventory & shop floor transactions) to General Ledger.

#### **Two Electronic Integrations**

#### **Microsoft Great Plains Dynamics**

For decades, Microsoft Great Plains (MGP) Dynamics has been the recommended choice for MAX manufacturing organizations with annual sales volume over \$5M in sales. The MAX/Dynamics Financial Integration Module maps the necessary general accounts and then makes sure that all MAX side activity hits those accounts.

#### Intuit QuickBooks Enterprise

More recently, an electronic integration Intuit QuickBooks Enterprise has been added for those smaller organizations that appreciate the need for electronic integration but are not quite ready for MGP yet. The



#### Finance

- Financial Integration
- Consolidated Invoice
- Multiple Currency
- Product Costing
- Multiple Cost Sets
- Job Costing
- Stock Revaluation

MAX/QuickBooks Financial Integration module controls the mapping and flow of MAX accounting into your QuickBooks General Ledger, A/R and A/P modules.

#### **Compare Supplier Invoices to PO's and Receipt Records**

Match vendor invoices with purchase order and receipt information to create payable vouchers.

	it Voucher Repo ∦ ो∎ 💼 🗮 🗙   €	ts Options 1	Fools Wir	ndow Help								
Voucher 1												
<sup>p</sup> urchase Or	der 70000003	Voucher No.	00400001	Mark ✓ Show	Voucher for l	Posting						
M	PO No. LN	DL	GRN	Voucher	Part ID	Desc	Qty rec	Stock	GL	Tnx Date	REC	Base Charg
1 1	7000003 01	01		1 00400001	2200	Cabinet	20	50000001		02/10/2020	1001	0.0
2 🗸	70000003 02	01		2 00400001	2200	Cabinet	20	50000003		02/10/2020	1002	0.0
1												Þ
(			line	ltem		1		Code	Ассо	unt Arr	ount	
<ul> <li>Inv # 0E-20</li> </ul>	0200301 Inv	Date 3/17/2020	Line Tota	Item	\$100.00	LnTot		Code	Acco	unt Arr	iount	100.00
() nv # 0E-20	0200301 Inv	Date 3/17/2020	Line	Item	\$100.00	LnTot Freight	INFRG	Code	Acco 00005310000	unt Arr	ount	100.00
<pre>(    DE-20    ACCT    ACC</pre>	0200301 Inv 00002010000	Date 3/17/2020	Line Tota A/P Acc	Item	\$100.00 A	LnTot Freight Misc 1	INFRG	Code HT	Acco 00005310000 00008050000	unt Ar	iount	100.00 18.30 12.50
OE-20	0200301 Inv 00002010000 NET 30 DAYS - 01	Date 3/17/2020	Line Tota A/P Acc	Item I Itype Code PS - GBRUIND	\$100.00 A	LnTot Freight Misc 1 Misc 2	INFRG ADM	Code HT	Acco 00005310000 00008050000	unt Arr	iount	100.00 18.30 12.50 0.00
● nv # OE-20 \/P Acct Terms	0200301 Inv 00002010000 NET 30 DAYS - 01	Date 3/17/2020	Line Tota A/P Acc	Item I It Type Code IPS - GROUND	\$100.00 A - 01 •	LnTot Freight Misc 1 Misc 2 Tavi 1	INFRG ADM	Code	Acco 00005310000 00008050000	unt Am	iount	100.00 18.30 12.50 0.00 0.00
nv # OE-20     vrms     //endor ID	0200301 Inv 00002010000 NET 30 DAYS - 01 010	Date 3/17/2020	Line Tota A/PAcc ipVia U uyer 0	Item Item It Type Code IPS - GROUND	\$100.00 A • 01 •	LnTot Freight Misc 1 Misc 2 Misc 3 Tax 1 Tax 2	INFRG ADM	Code	Acco 00005310000 00008050000	unt An	ount	100.00 18.30 12.50 0.00 0.00 0.00
The second seco	0200301 Inv 00002010000 NET 30 DAYS - 01 010	Date 3/17/2020 * SH	Line Tota A/P Acc ip Via U yer 0	Item t Type Code IPS - GROUND 10	\$100.00 A - 01 •	LnTot Freight Misc 1 Misc 2 Misc 3 Tax 1 Tax 2 Tax 3	INFRG ADM	Code	Acco 00005310000 00008050000	unt An	ount	100.00 18.30 12.50 0.00 0.00 0.00 0.00 0.00
Inv # DE-20     A/P Acct     Ferms /endor ID Reference	0200301 Inv 00002010000 NET 30 DAYS - 01 010	Date 3/17/2020	Line Tota A/P Acc ip Via U yyer 0	Item Item It Type Code IPS - GROUND	\$100.00 A - 01 •	LnTot Freight Misc 1 Misc 3 Tax 1 Tax 2 Tax 3 Disc	INFRG ADM	Code	Acco 00005310000 00008050000	unt Am	iount	100.00 18.30 12.50 0.00 0.00 0.00 0.00 0.00 0.00
Inv # 0E-20     V/P Acct     'erms     /endor ID     Beference	0200301 Inv 00002010000 NET 30 DAYS - 01 010	Date 3/17/2020	Line Tota A/P Acc ip Via U uyer 0	Item at Type Code PS - GROUND 10	\$100.00 A - 01 - +	LnTot Freight Misc 1 Misc 2 Misc 3 Tax 1 Tax 2 Tax 3 Disc Total	INFRG ADM	Code	Acco 00005310000 00008050000	unt An	iount	100.00 18.30 12.50 0.00 0.00 0.00 0.00 0.00 0.00 0.00

Figure 1. Easy-to-use Vouchering System Helps You Match Vendor Invoices with Purchase Order and Receipt Information so You Can Process A/P Invoices more quickly.

#### Post Sales Orders, Vouchers, and General Ledger Transactions to Accounting

Either integration will allow you to:

- Automatically post accounts receivable, accounts payable using real-time integration without double entry.
- Run the From/To Charge report to provide detailed or summarized inventory and shop transactions for a user-specified accounting period required to post to General Ledger accounts.
- Eliminate surprises by generating Audit Reports which provide detailed information about data sent to the accounting system.

CL Transactions ×  Integration Status  Integration is Disabled ]  Exception Report  Filename CLEXACTVRIMCLIENTVEPWVPOST_GL.pt Last Message	Post Sales Orders     X       Integration Status     [Integration is Disabled]       Exception Report	Post Vouchers         ×           Integration Status         [Integration is Disabled ]           Exception Report
Sort Sequence       Posting Options         Transaction Date       Exclude Potet Transactions for         Blach Number       Exclude Potet Transactions for         Account Number & Transaction Date       Exclude Potet Transactions (or         Post Date within Account Number       Enable Posting         Start Batch       Exclose         Al       Start Batch         GL000000000       End Batch         GL000000000       Exclose	Posting Options Posting Type: Drders Credit Memos Both Selection: All Range List Assigned Invoice Date: 3/17/2020 Pink Batch Report Range Start with Order Number 20000001 End with Order Number 2000003	Posting Options Post By: Voucher Number Order Number Selection: All Range List Range Start with Voucher 00400001 End with Voucher 00400099 Print Post Close
Figure 2. Post all unposted batches so they can be moved to the general ledger	Figure 3. Quickly post sales orders to receivables management prior to printing invoices	Figure 4. Send approved vouchers to payables management so suppliers can be paid

#### Make General Ledger Adjustments

Jource Account	l arget Account(s)		
00001390000	Account Name	Credit Amount	Reference
o Debit 🔿 Credit	00006000000	100	
Amount 100			
Reference Reclass ENG Expense			
0.000000			
Process			

Figure 5. Make adjusting entries from MAX.

MAX Journal Entry allows:

- Double entry adjustment transactions to be entered.
- Writes directly to Work General Ledger accounting interface table.
- Posted with next MAX G/L batch

#### **Report Inventory Value**

- Inventory value can be reviewed at any time by running:
  - Stock Cost or Inventory Value Reports Determine the value of your stockroom inventory by material, material overhead, and labor, labor overhead and subcontract cost elements to ensure proper inventory management.

• End-Of-Period Work-In-Progress (WIP) report that calculates the value of inventory currently on the shop floor (issues minus receipts and scrap).

## **Consolidated Invoice**

When high volumes of shipments are made to the same customer, those shipments may be consolidated and billed on a single invoice, even if they span multiple customer orders. Invoices, however, must be compatible (i.e., all orders in the batch must have the same Currency Code, Terms Code, General Ledger Accounts, and Exchange Rates).

Consolidating invoices provides the following benefits:

- Simplifies communication with customers on invoices and payments.
- Reduces administrative work because the number of invoices and payments will be reduced.
- In some cases, generates direct cost savings because of customs fees or taxes that are applied per invoice document.

### Multiple Currency

With the enlarging of supply chains, some of which extend to beyond international borders, the ability to move from one foreign currency to another is required. The MAX Multiple Currency option opens that ability for both sales (i.e., outward to customers) and purchasing (i.e., outward to suppliers).

Multiple Currency allows for:

- Establishing a base domestic currency.
- Assign foreign currency to channel partners (i.e., customers and suppliers.).
- Allow for adjusting exchange rates between base and foreign currencies.
- Changes currency on printed sales and purchase orders to that assigned to channel partners.
- Calculates gains and losses on exchange rate fluctuations.

Currency	x
Currency Code	US
Description	US DOLLARS
Exchange Rate	1
Symbol	\$
Extended Price Decimal Places	2
Sales Unit Decimal Places	2
Purchasing Unit Decimal Places	4
Costing Unit Decimal Places	4
User Defined Key	
User Defined Reference	
Close	Update Delete Help

Figure 6. Set-up operating and foreign currencies.

## **Product Costing**

Every part in the system requires a standard cost made up of material, material overhead, labor, labor overhead and subcontract cost elements, where required. This cost is used in cash flow projections, asset valuation (stockroom and WIP inventory) and all transactions generated. As a standard cost system, variance analysis is critically important to understanding market conditions and controlling operations.

#### Standard Cost Reports — Know the Cost of Everything

- Print (or inquiry) part cost data for cost details.
- Print a Costed BOM to review cost data for manufactured parts.
- Print a Costed Order BOM which displays cost data for specific order(s).

Costing enables you to track cost variances for all cost elements by multiple factors (i.e., part, order number, or by work center) depending on the type of part. Begin controlling your company's costs and performance today by knowing exactly how much cost every order, part and operation consumes.

Part ID 1000		\$		Cost per Unit	1548.6/233186	
Desc Compu	ter			Labor Cost	11	
				Material Cost	1515.67233186	
BOM LIOM	EA	Acct Type	٨	Subcontractor Cost	0	
Cost LIOM		Yield	100	Cumulative Labor	58.22222222	
	EA		100	Cumulative Material	1201.36878655	
Cost Type	A - Automatic		Concession States	Cumulative VOH	116.4444444	
Cost Date	4/27/2019	Labor Burden %	200	Cumulative FOH	120.13687865	
Labor Hrs/Unit	1.1	Mat Burden %	0	Material X & Y	0	
Cum Labor Hrs	5.8222	Labor Burden \$	22	Cost Conversion	1	
Cum Sub Cost	52.5	Mat Burden \$	0	Yield \$	0	

Figure 7. Maintain All Cost Data Including Material, Subcontract, Labor and Overhead

#### Track Cost Variances — Compare standard costs to actual costs

- Maintain separate units of measure for stocking and costing.
- Automatically calculate standard costs for each part using implode or explode logic.
- Compare actual material usage to planned usage.
- Compare actual labor costs to planned costs by order or work center.
- Examine cost variances at order close.
- Use variance analysis to update standard cost data.

Number	50000006	Part ID	2100		Part Description	System Unit	
Status	4 - Completed	<ul> <li>Current Qty</li> </ul>		20	Reference		
Туре	MF - Shop Order	* Balance Due		0	UDF Key		
Amended		<ul> <li>Actual Scrap</li> </ul>		0	UDF Reference		
	Actual	Standard	Variance				
Material	16233.4466	16453.4466	-220.0000		Actual	Standard	Variance
Material Burde	n 0.0000	0.0000	0.0000	Subcontract	0.000	0 0.0000	0.0000
Total Material	16233.4466	16453.4466	-220.0000	Bulk Issued		0.0000	
	Actual	Standard	Variance	Grand Total	16233.446	6 17113.4466	-880.0000
Labor	0.0000	220.0000	-220.0000				

Figure 8. Accumulate an Order's Cost and Compare Differences between Planned Material, Labor and Subcontract Costs against Actual

Select Range Select <u>B</u> y Par <u>S</u> tart <u>E</u> nd	t ID	7	MRP Need Da	ite Range 3/17/ 3/17/	/2020		Query				
Order Number®	PO Due Date	Part ID	Part Description	Standard Unit Cost	Actual Unit Cost	Rec'd Quantity	Rec'd Standard Cost	Rec'd Actual Cost	Variance	Vendor	Vendor Name
70000001-01-01	02/13/2020	3200	Floppy Disk	25.00	25.00	80.00	2000.00	2000.00	0.00	007	Qubie
70000002-01-01	02/13/2020	3200	Floppy Disk	25.00	25.00	0.00	0.00	0.00	0.00	007	Qubie
70000002-01-02	02/27/2020	3200	Floppy Disk	25.00	25.00	0.00	0.00	0.00	0.00	007	Qubie
70000003-01-01	02/10/2020	2200	Cabinet	2.41	2.50	20.00	48.13	50.00	1.88	010	Outside Etching Company
70000003-02-01	02/10/2020	2200	Cabinet	2.41	2.50	20.00	48.13	50.00	1.88	010	Outside Etching Company
70000004-01-01	02/24/2020	3500	Metal	0.63	0.63	6400.00	4000.00	4000.00	0.00	002	General Metal
70000005-01-01	02/20/2020	3000	Keyboard	100.00	75.00	0.00	0.00	0.00	0.00	004	International Business Machine
70000006-01-01	02/20/2020	3400	CPU	100.00	125.00	0.00	0.00	0.00	0.00	006	Lo Trading
70000007-01-01	02/20/2020	2300B	PCB	100.00	100.00	0.00	0.00	0.00	0.00	007	Qubie
70000007-01-02	03/05/2020	2300B	PCB	100.00	100.00	0.00	0.00	0.00	0.00	007	Qubie
70000007-01-03	03/19/2020	2300B	PCB	100.00	100.00	0.00	0.00	0.00	0.00	007	Qubie
70000008-01-01	02/20/2020	3100	Monitor	500.00	500.00	0.00	0.00	0.00	0.00	008	Zenith Data Systems
70000008-01-02	03/05/2020	3100	Monitor	500.00	450.00	0.00	0.00	0.00	0.00	008	Zenith Data Systems
70000010-01-01	03/19/2020	3700	Memory	100.00	100.00	0.00	0.00	0.00	0.00	005	Intel Corporation
70000011-01-01	03/26/2020	4180	1TB Hard Drive	400.00	400.00	0.00	0.00	0.00	0.00	008	Zenith Data Systems
70000012-01-01	04/16/2020	3000	Keyboard	100.00	75.00	0.00	0.00	0.00	0.00	004	International Business Machine
70000012-01-02	09/03/2020	3000	Keyboard	100.00	75.00	0.00	0.00	0.00	0.00	004	International Business Machine
70000015-01-01	08/13/2020	3700	Memory	100.00	100.00	0.00	0.00	0.00	0.00	005	Intel Corporation
70000016-01-01	03/19/2020	3000	Keyboard	100.00	75.00	0.00	0.00	0.00	0.00	004	International Business Machin
70000016-01-02	04/02/2020	3000	Keyboard	100.00	75.00	0.00	0.00	0.00	0.00	004	International Business Machin
70000017-01-01	03/09/2020	4100	Hard Disk	350.00	350.00	2.00	700.00	700.00	0.00	007	Qubie
70000019-01-01	03/17/2020	3200	Floppy Disk	25.00	25.00	0.00	0.00	0.00	0.00	007	Qubie



## **Multiple Cost Sets**

The MAX Multiple Cost Set option allows for multiple sets of costs to be stored in the MAX database for operational use (i.e., tracking standard, average and/or last in costs), historical use (i.e., saving period end costs) and cost modeling (i.e., model a 5% purchased cost price increase, set next year's standard cost, etc.).

🔛 Cost Set Data 1																			×
Pait ID #100 De	esc Hard Disk			Part Type	B · Normal MR	P Purch +													Î
Cost Type M - Manual Cost U	OM EA	BOI	M UOM EA	Cost Conv		1	]												
Cost Set	Cost Date	Unit Cost	Material Cost	Material Burden %	Labor Cost	Labor Burden %	Hours	Yield %	Sub Cost	Material XY	Cum. Material	Cum. Material Burden	Cum. Labor	Cum. Labor Burden	Cum. Hrs.	Cum. Sub.	Material Burden \$	Labor Burden	
00 - Part Master	03/07/2016	385.0000	350.0000	10.0000	0.0000	0.0000	0.0000	100	0.0000	0.0000	350.0000	35.0000	0.0000	0.0000	0.0000	0.0000	35.0000	0.00	
01 - Part Master Standard at v5.5.3 Upgrade	03/07/2016	385.0000	350.0000	10.0000	0.0000	0.0000	0.0000	100	0.0000	0.0000	350.0000	35.0000	0.0000	0.0000	0.0000	0.0000	35.0000	0.00	-
AV - Average Cost	03/17/2020	385.0000	350.0000	10.0000	0.0000	0.0000	0.0000	100	0.0000	0.0000	350.0000	35.0000	0.0000	0.0000	0.0000	0.0000	35.0000	0.00	
LP - Last Purchase Price	03/17/2020	385.0000	350.0000	10.0000	0.0000	0.0000	0.0000	100	0.0000	0.0000	350.0000	35.0000	0.0000	0.0000	0.0000	0.0000	35.0000	0.00	
•																		Þ	-

Figure 10. Multiple Costs allow multiple cost sets for tracking cost fluctuation, for modeling future cost situations and for historical purposes.

- Use a cost set to track the average cost of purchased material as parts are received.
- Use a cost set to tack the last in cost of purchased material as parts are received.
- Create user definable cost sets for any management purpose.
- Set work center labor rates to be used in cost modeling (in anticipation of labor rate changes).
- Perform cost set roll-ups to calculate the new cost of manufactured items.
- Copy to a cost set from the Part Master to a cost set from another cost set, or to the Part Master from cost set.
- Run internal reports using cost set costs (i.e., what is current inventory when valued at next year's standard?).
- Compare any two cost sets using Crystal Reports.
- Clear cost sets when they are no longer required.

## Job Costing

In manufacturing, a job can be a single shop order or a series of shop orders that comprise one product shipped to a customer. Every MAX Master Scheduled, or Shop Order is costed so that planned and actual data can be evaluated. This data can be reviewed on the Total Order Cost report.

				Total C	Order	CostF	Report						
		Orde	r Number Range 3	0000000 to	79999999	; any Date;	Status 4;	by Order Nu	mber				
0	rder Number 5000	00001			Or	derType:M	F - Manufa	ctured Order			St	andardCost	
-					Ord	er Status: 4	Complete				Order		Unit
	PartID: 2200				c	rderQty: 2	0.00			Material:		48.13	2.4063
	Description: Cabinet			102	Bala	ance Due : 0	.00			Material OH:		0.00	0.0000
	CommodityCode: Mech PartType: A. Norma	MRP Manufactured Pad	1	E	Actuals	ceiptQty: 0	00			Labor OH:	. 4	180.00	48 0000
	CostUOM: EA	CostConv:	1.00		Com	plete Qty: 2	0.00			Material XY:		0.00	0.0000
	Reference:				1	Due Date : 1/	30/2020			Subcontract		50.00	2.5000
	UDF Key :				Amend	ed Order:N	-No						
	UDFReference:					Rework: N				Totals:	1,5	538.13	76.9063
Plan	ned Materials												
	Component	Description	1	PartType	MOU	Cost/Uni	t Plai	nQty Sc	rapQty I	ssue Qty	PlanCost	ActualCost	Variance
3500	M	etal		D	SF	0.68	375	70.00	0.00	70.00	48.13	48.1	3 0.00
					Totals:						37	48.1	3
Pla	anned Labor					Hou	<u>ırs</u>	La	bor	<u>Ov</u>	erhead	Vari	ance
Op Seq	OperationDescription	on Wrkentr	Workcent	ter Descriptio	m	Planned	Actual	Planned	Actual	Planned	Actual	Labor	Overhe
0010	Cut	сит	Cut			3.00	3.00	30.00	30.00	60.00	60.00	0.0	0.00
0020	Bend	BEND	Bend			3.00	3.00	30.00	30.00	60.00	60.00	0.0	00.00
0030	Outside Vendor Shop	OVS	Outside Vendor S	hop		0.00	0.00	0.00	0.00	0.00	0.00	0.0	00.00
0040	Paint	PAINT	Paint			2.00	2.00	20.00	20.00	40.00	40.00	0.0	00.00
0050	Inspect	QA	Test			2.00	11.00	20.00	110.00	40.00	220.00	90.0	0 180.00
					Totals:		19.00		190.00		380.00	D	
	Sub Totals	Standard	Actual		Variance	_							
	Material :	48.13	Actual	13	variance	0.00							
	Material Overhead:	0.00	0.	00		0.00							
	Labor:	480.00	190.	00	-	290.00							
	Labor Overhead :	960.00	380.	00	-	0.00							
	TatalOadaa	4 529 42	660	42		270.00							
	rotaroroer:	1,000.10	000.	1.5	-	10.00							

*Figure 11. Total Order Cost reports show the costing details of each job/shop order.* 

- Total order cost report shows:
  - The planned and actual values for all cost elements (material, material overhead, labor, labor overhead and subcontract cost).
  - The variances for each of the cost elements.
- A custom order cost report can be used to pull the data from a series of related master scheduled and/or shop orders.

## Stock Revaluation

Stock Revaluation is a background operation tracks the differences in inventory value for parts in inventory that experience cost change. Any cost change that is made will now generate an inventory transaction that captures the change in inventory based upon the quantity on hand and the amount of the cost change. This transaction is written to the Transaction History table, which is subsequently used by the From to Charge report. When the From to Charge report is then run, reviewed, and posted to the integrated accounting system, those transactions are sent with the others for the period.

- Uses a new default account to track revaluation activity. •
- Revaluation activity can also be tracked for: Material cost, material overhead cost, labor cost, labor • overhead cost, subcontract cost and yield cost.
- As a SQL database trigger, it will generate the transaction for any cost change from within MAX or from ٠ an external application including SQL scripts, the Extract, Transform and Load (ETL) module or through the MAX Update Dynamic Link Library (DLL).
- Revaluation transactions are coded with the reason and a description of that reason for auditing ٠ purposes.

	Invento	ry Transact	ion Hist	ory So	rted E	By Parl	ld	entifie	r	Pag	je 1
	PartIde	entifier Range From	Begin to End,	Date Rang	e From 3/2	2/2020 to 3/	17/20	)20			
Part Identifier	Description	Order Number	Vendor ID	Trx Date	Trx Time	Quantity	UM	Stook ID	т	Reference	GLF
3500	Metal			3/17/2020	15:11:57	281.50	SF	MS	E	INVENTORY	
3500	Metal	500000010000		3/17/2020	15:11:57	70.00	SF		E	SHOP ISSUE	
3500	Metal	500000030000		3/17/2020	15:11:57	70.00	SF		E	SHOP ISSUE	
3500	Metal	500000070000		3/17/2020	15:11:57	70.00	SF		E	SHOP ISSUE	
3500	Metal	50000090000		3/17/2020	15:11:57	38.50	SF		E	SHOP ISSUE	
3600	24V Power Supply			3/17/2020	15:11:32	50.00	EA	MS	E	INVENTORY	
3600	24V Power Supply	500000040000		3/17/2020	15:11:32	20.00	EA		E	SHOP ISSUE	
3600	24V Power Supply	500000050000		3/17/2020	15:11:32	20.00	EA		E	SHOP ISSUE	

Figure 12. Stock revaluation transactions keep MAX and integrated accounting systems in balance.

## **Finance Summary**

The MAX Costing and Financial Integration modules take care of the "accounting" side of the system. Product costing establishes he standard cost for every part in the system, which is then used to track performance against that standard. All transactions generated are also costed using these same costs and the results posted to the integrated accounting system. In addition, three vertical flows of data move from MAX to accounting: Sales Order Processing to A/R, Purchasing to A/P and all other inventory type transactions to G/L.

# Information Technology

Information Technology includes the infrastructure (i.e., On-premises or Hosted) to runs the ERP application. System security, system configuration and system administration, including archiving data, are all found here. This area could have been called System Administration.

## **On-premises or Hosted**

MAX was originally designed to be a client-server on premise system but can now be configured to run in a hosted solution. The hosted solution allows for those organizations with high performing Internet services to take advantage of lower IT support costs.

## MAX System Manager

When you login to the MAX Enterprise Resource Planning (ERP) application, it provides a login screen just as most respectable enterprise level applications do. If the user successfully enters the security credentials, the system allows access, and the System Manager starts. The System Manager is the "portal" into the application, which is organized first by tabs, where most are equivalent to the sections in this document, and then into modules. User documentation accompanies each of the modules.

#### Information Technology

- On-premises or Hosted
- MAX System Manager
- User Designed Fields
- Transaction Security
- Extract Transform & Load
- Archive Manager
- MAXAnywhere
- MAXUpdate



While every user uses the System Manger to access MAX, the module functions are primarily related to Information Technology users.

MX System Manager - MANAGER		
Activity Report Batch Options Tools	Window Help	
े 🗗 🕄 🕄 🖓 🔍 र 🚪 🔇 🛇 😂	🗞 👷	
Control Panel 🛛 📮 🗙	🔗 Engineering 🔗 Customer 🏫 Materials 🏛 Production 🔊 Finance 🥝 Executive 🛸 E-Commerce 🆓 Utilities	
Shortcuts		
Database Info	System Manager	MX
Part Explorer		
Gold Standard		

Figure 1. MAX System Manager contains HTML web pages for user navigation, plus system administration ad configuration functions.

Features of the System Manager include:

- Choose to authenticate through Windows or use MAX's authentication.
- Maintain user security for all MAX users.
- Maintain manager security for manager series products (i.e., ECO Manager).
- Allows for User Personalization (i.e., fonts, colors, etc.).
- Company maintenance (creating new, attaching companies, etc.).
- System Configuration Setting system level switches effecting MAX operation.
- Maintenance of the Shop Calendar, Tool's menu, and Web tabs.
- Other maintenance functions:
  - o Requirements status update.
  - Requirements and job audit.

- o Order delivery mass change for dates and status codes.
- Purge part stock table.
- Reset cycle count and MTD/YTD counters.
- User designed fields and user designed forms.
- Calls other IT related modules such as ETL and Archive Manager.

## **User Designed Fields**

User Designed Fields allows the MAX user to create additional screens, determine what fields are to be on those screens, determine what those fields are called and store more local data. This allows the addition of local "custom" fields to be entered through the normal MAX interface and be available for internal report.

- Creates extended tables containing custom fields for many 14 MAX tables.
- Allows for the use of 7 data types (i.e., Boolean, Date, Integer, Test, etc.).
- Creates additional tab or button for MAX tables.
  - Tab or button name is user definable.
    - Field position on new screen is user definable.
- Users can also now specify the labels that appear on MAX screens for many of the UDF Key and UDF Reference fields.

Table		Customer_Ma	ster 🗸								
Tab	lutton Label	More Info	Group Lab	el		UDF Ke	y Label	UDF Ref Lat	oel 📃		
	Label		Field Name	Data Type	Browser	Length	Default Value	Data Range	List Separator	Selection List	Screen Location
•	Market Secto	or	Market_Sector	Combo Box		50			1	Medical;Agriculture;Consumer_Products	1
*					1						

Figure 2. User Designed fields allows for local data to be collected and used within MAX.

E Customer Master Maintenance	Extended Fields	x
Customer ID BLNCPNT	Customer ID BLNCPNT  Extended Fields Market Sector Consumer_Products	
Billing Information	Save	
Balancepoint Technologies 497 Whispering Pines Road Lindenhurst, IL 60046 USA Comment 1 Comment 2 Finance		
Terms Code 2% 10 Net 30 Days		
Apply to L - Line Item only	Statements     Finance Charge     VAT     More Info	
Do Not Allow Backorders		
	Delete Clear Help	

Figure 3. Market sector added to Customer Master Table

## **Transaction Security**

Where MAX System Manager security will determine if a given user can perform inventory transactions, this functionality allows you to control the locations of those transactions by physical area (i.e., stockroom) and by specific parts (i.e., parts used in a given area). For example, a user that works in the service parts department may only be allowed to perform a cycle count transaction in that stockroom area. You may also have a distribution warehouse where those personnel can transact based upon that location, but not within other MAX stockrooms.

Features of transaction security include:

- Produces a "sub-set" of security for "W" and "S" rights for inventory control and shop floor execution transactions.
- Allows rules to control if a particular user can perform transactions, or not, based upon the Part Identifier, Stockroom or both part and stockroom.
- Allows for security profiles to be copied to users from users.
- Select specific criteria or ranges.
- Allows the use of wildcards for parts and/or stockrooms.

	Transacti	on Security -	[Maintain Tr	ansaction Security	]								
ð	Activity	Help											
D	<b> </b> 📽 日	<u>%</u> 🖻 🛍	X 🚳 🔋	2									
	Username	PR0D1			•								
		Туре		Part Begin	Part End	Part Wildcard	Frm Stck	Frm Stck End Frm S	itck Wild.	To Stck Begin	To Stck End	To Stck Wild.	Quarant
	1 Cycle	e Count	-				MS	MS					
	2 Adju:	stment	-			9	MS	MS					
	3		-									-	

Figure 4. Specify parts and/or stockrooms to allow processing.

## Extract Transform & Load

#### Move your MAX Data with MAX ETL

The Extract Transform & Load (ETL) uses Extensible Markup Language (XML) as a format for manipulating data or passing it between MAX companies or between MAX and another application. The name of the module is the process:

- EXTRACT—download a file into XML format.
- TRANSFORM—edit a file in Excel 2003 or any other XML editor<sup>1</sup>
- LOAD—upload a validated XML file into MAX.

The main benefit of using ETL to update MAX tables data validation. In the ETL process, data is validated as it is loaded, and the module will reject records that do not meet the standard. This makes the ETL process much safer for those that lack database knowledge.

<sup>&</sup>lt;sup>1</sup>Altova XMLSpy<sup>®</sup> 2016, which is the industry's best-selling XML editor for modeling, editing, transforming, and debugging XML-related technologies, is recommended.

Extract	MAX Data		x
Business Objects	Required	ł	
Address Master BOM Notes BOM.MPN String Cost Set Master Customer Master Employee Master Feature Descriptions Feature Custoffer Forecast Orders Mas Lenns Multiple Cost Non-Inventory PO Option Descriptions Order Sill Order Routing Part Master Part Notes Part Notes Part Notes Part Notes Part Notes Part Notes Part Notes Part Notes Part Sales Product Schedule Purchase Order Code Purchase Order Code Purchase Order Note Purchase Order Note Purchase Order Note Sales Order Shipment Scheduled Price Stop Orders Stop Orders Stop Orders Stop Orders Stop Orders Stop Master Stop Orders Stop Master Stop Orders Stop Master Stop Orders Stop Master Stop Master Stop Master Stop Master Stop Master Stop Master Stop Master	*		
Output File Folder : \\RMServer\LOG\MAX Getting	Started\	View	- -
Log File :	Charles & Event Dial P		_
V.RMServer/LOG (MAX Getting	Started \Exact RMBat	cnextra: View	
Download XML		Help	

Figure 5. Load or unload your MAX Business Objects with the click of a button.

With MAX ETL, you can...

- Load/Unload individual or multiple MAX Business Objects (i.e., tables)
- Reap the benefits of XML tagged files.
- Structured data
- Published Validation Standards
- More structured (safer) than working in SQL database directly.

Top Twelve Things You Can Do with MAX ETL That DOS Loads/Unloads Did Not Do

- 1. Simplify MAX Data Clean-Up
- 2. Access All fields in your MAX Data.
- 3. Automatically Perform Batch Data Loads in the proper order
- 4. Setup Batch Data Loads and Unloads, then run Load/Unload Data after hours
- 5. Leverage the advantages of .NET technology.
- 6. Automatically Identify Data Errors & Omissions with the Load Function
- 7. Set User Security for Data Loads/Unloads using a Single Key.
- 8. Load/Unload only Data (no filler) from and to the MAX Database
- 9. Use XML tags to identify each data field.
- 10. Access the UDF and Key fields in each MAX data file.
- 11. Automatically route ETL activity to the System Admin via email
- 12. Program ETL XML using .NET with purchase of MAXUpdate.

## **Archive Manager**

Keep older data where it should be...in the annals of history!

Effectively capturing and maintaining data is a cornerstone of a successful business. But databases are not limitless in their capabilities, and the simple accumulation of data can eventually turn this valuable company asset into a quagmire of liability. Although with the right tools, even data quagmires can be managed easily. If your MAX system is slowing under the weight of old records, consider rejuvenating it with the MAX Archive Manager.

Archiving your data is a useful strategy for keeping your MAX database performing at peak levels. Data files that grow too large can hinder the ability of your server to efficiently search and retrieve the work records that you need to keep the day going. And by archiving your data (rather than just purging) you can keep many years' worth of valuable data available for real time lookup.

Ø	Preferences	x							
Cutoff type ② Days ③ Date	Cutoff Date 720 Cutoff days 3/28/2018 Due dates on or before this date								
Show Messages (C	Show Messages (Clear the check box to prevent the message from being shown)								
Save and Exit Cancel									

*Figure 6. Specify the cutoff period in days or specify a date.* 

With Archive Manager, you can...

- Increase MAX system performance.
- Enjoy quicker search capabilities and more efficient retrieval of records without giving up important historical data.
- Archive Sales Orders, Transaction History, and Work GL
- Look up archived data using standard MAX modules.
- Run multi-period reports with live and archived data.
- Purge data not requiring to be archived.

#### Archive Sales Orders, Shop Orders, and Purchase Orders

Archive Manager contains three routines referred to as order centric data. These three routines correspond to the three largest MAX order types: sales orders, shop orders and purchase orders. These functions will purge all the dynamic data files related to the data. For example:

- Sales orders SO Master, Detail, Notes, Requirements Detail. Ship history, RMA detail, Invoice Master, and detail, etc. These tables are listed on the screen.
- Shop orders Order Master, Job Progress, Requirements Detail and Transaction History are used, as are Employee Work and Time Ticket data.
- Purchase orders Order Master, PO Code, PO Notes, PO Receipts, Transaction History, etc.

Basically, as an order is found within the archive criterion, every dynamic data table associated with that order is also processed.

	DACK UD YOU		
	BACK UP YOU	R FILES BEFORE R	UNNING THIS PROGRAM
Order Type ✓ Sales Order ✓ Credit Memo ✓ Consignment ✓ Quote	Range Option All Orders Order Number Customer ID Part ID		
Option Orchive Copy Purge	Cutoff Date Option © Line item due date CLast shioment date CLast Invoice date	Cutoff Date 720 3/28/2018	Cutoff days Due Dates on or before this date
Archive Progress Progress Start time	End time		
)(			

Figure 7. Archive Sales Orders, Consignment Orders, Credit Memos and Quotes

	S	hop Orders		x
BACK	UP YOUR FILES	BEFORE RUNN	IING T	HIS PROGRAM
Order Type OMF & MS OMS - 30000000 OMF - 50000000	Range Option All Orders Order Number Part ID Include Status 4	Orders		
Option O Archive Copy O Purge	-Cutoff Date Option- Due date Last TNX date	Cutoff Date 720 3/28/2018		Cutoff days Due dates on or before this date
Archive Progress Progress Start time	End time			
Process	View Log	Close		Help

Figure 8. Archive Shop Orders

Range Option     Option     Line item due     Vendor ID	e date onlv	Order Number		
Option	Order O	ption	-Cutoff Date	
<ul> <li>O Archive</li> <li>✓ Include</li> <li>✓ Include</li> <li>✓ Include</li> <li>✓ Include</li> <li>✓ Include</li> </ul>		de status 4	720	Cutoff days
		de Non-inventory PO's	3/28/2018	Due dates on or before this date
O Purge		de Subcontract PO's		
Archive Progress				
Progress				
Start time	En	t time		
start time	EIR			

Figure 9. Archive purchase orders - define specific characteristics for each archive.

MAX Archive Manager Highlights

- No longer choose between system processing performance and valuable historical data. Archive Manager allows all historical data to be retained online without sacrificing performance.
- Look up historical data using standard MAX applications and include both live and historical data in custom reports.
- Order histories can be archived with one process keeping record sets together in either the live or archive data sets.
- Transaction specific archiving allows you to choose which transaction type(s) to archive, including unplanned transactions and transactions not related to orders.
- Re-archive feature ensures that no data is lost in case of system or power failure during the archive process.
- Archived history reports are generated and saved with each archive process. These are easily accessed anytime via the reports window in the Archive Manager.
- Reports are included to check specific data conditions before archiving to ensure best results.

The MAX Archive Manager can be the utility to help resolve your data quagmire.

## MAXAnywhere

MAX Anywhere is a web-based application built in HTML5 and .NET. It is NOT resident on mobile devices; but rather is a browser-based application which is intended to be hosted on a web server (IIS) and accessible via web browsers and mobile browsers by the employees/users on their laptops, desktops, smart phones, and tablets.

We refer to individual MAX Anywhere activities, inquiries, or transactions as Functional Items. Each Functional Item (activity, inquiry, or transaction) is represented by an Icon or List Item depending on the Menu View chosen. Some functional items can also be accessed through buttons on the screens of other functional items – for example accessing the RMA Receipt screen from the RMA Order screen.

Features include:

- Fifty-five functional Items organized in three modules: Sales, Materials, and Shop Floor.
- Enable at the MAX Company level.
- User security controlled.
- Users MAX System Manager System Configuration settings.
- Accessed via a web browser from within or external to the firewall.
- Devices may use Bluetooth Bar Code scanners.
- Reports may be emailed.

Use MAXAnywhere to deploy MAX remotely and wirelessly throughout your organization.

### MAXUpdate

MAXUpdate is a programmer's reference to the Windows Dynamic Link Libraries (DLLs) that contain the lowlevel code for the MAX Manufacturing Software package. This Application Programmer's Interface (API) package should allow an experienced programmer to build custom interfaces that interact with MAX function code without having to worry about how to update the MAX database.

MAXUpdate was developed to extend the foundation built by the MAX for Windows modules. At present, MAXUpdate supports Sales Order, Purchase Order and Shop Order Entry as well as Shipping, Purchasing, Inventory and Shop Floor Control transaction functions.

MAXUpdate provides the experienced programmer with tools and an example method with which to program applications that "talk to" the MAX database. Generally professional work experience in .NET software development is recommended before considering working at this level.

## Information Technology Summary

The MAX System Manager is the first screen every user sees when they log into MAX, but also contains basic functionally for system administration and configuration used by the Information Technology (IT) department.

## Data & Reporting

The Data & Reporting area is concerned with supporting users with data and information required to manage the ERP database and effectively operate the business. There is a great deal of Standard Reporting throughout all the areas and much of that reporting may be customized if needed.

To successfully create custom reports, you must first understand the underlying data structure of the system.

## **Standard Reporting**

MAX reporting is based upon SAP Crystal Reports Writer, the leading third-party report writer for Small to Mid-sized Enterprises (SME). This means that the internal reports may easily be modified for local conditions, as well as external reports easily developed. MAX ships with over 250 internal reports and forms.

## **Custom Reporting**

There are many options available for custom reporting. The "big three" in the MAX ERP market include:

#### **Crystal Report Writer**

All internal reports and forms to MAX are written using SAP's Crystal Report Writer. With a development license, these reports and forms can be modified for your local needs. Create custom reports with this powerful, easy to use application. Crystal Reports for MAX contains a wide range of built-in tools for report design and data analysis. Crystal reports are either distributed from within MAX or through local reports/shortcuts.

- Connect to MAX database through OLE DB (ADO).
- Link MAX tables as required.
- Use powerful Formula Editor to process MAX data into information.

SAP Crystal Reports - [Stock Cost Report]		A. Anno-residence (March
<u>File Edit View Insert Format Database Report V</u>	<u>V</u> indow <u>H</u> elp	
i 🗅 🥔 • 🗄 🖾 🕼 🕼 🗔 🛋 🗼 🐚 🐔 🛷 👳 •	🗠 + 🗈 🗃 🖗 😥 👷 🔂 M	
· A <sup>+</sup> A <sup>+</sup>   B Z	u   📰 🗃 🔳   🛕 + 🖽 + 🗗 📽 🤮   \$ , % 🕸 🕸 🚽	
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Group Footer #2:		@submativa @submation @sublaborva @sublaboron @subsubcost @subtotva
Group Footer #1:	Subtotal {@Consign?}:	@ConsigMate ConsigMatiOn @ConsignLaborsignLaborOH@ConsignSub @ConsignTota
Report Footer		@SUMmativat @SUMmation @SUMIaborvat @SUMIaboron @SUMsubvat @SUMtotva
Page Footer D Costing - Stock Cost Report, CSTS	TK.RPT @Company	📜 🦉 @ User 📜 Print Date 👗 🚺 Print Time

Figure 1. Customize MAX Reports using Crystal Reports Writer

#### **Data & Reporting**

- Standard Reporting
  - Custom Reporting
  - Crystal Reports
    - Excel Analytics
    - SQL Server Reporting Services
- Alerts & Automation KSAA



#### **Microsoft Excel Analytics**

With an estimated 500-million users worldwide, Excel has proven itself indispensable across business sizes, sectors, and departments. Historically however, the use of Microsoft Excel in an Enterprise Resource Planning (ERP) implementation was considered as a bad thing, one that distracted from making the system work. That was primarily because there was no direct link to Excel from the database. Instead, data had to be rekeyed into the spreadsheet. In todays' world, it is very common and easy to connect Excel to the MAX database.

- Connect to MAX database through OLE DB (ADO).
- Use 50+ pre-existing Excel Pivot tables and data links to process MAX data into information.
- Leverage already existing Excel application and local Excel knowledge.

These three options are not mutually exclusive. Portions of all three of these solutions could be used throughout your organization depending on the type of data to be processed, the skillset of your employees and the preferred tool of choice.

X	I III S → C → = RLE HOME INSERT PAGE LAYOUT FOR	MULAS DAT.	a review view add-in	IS ACRO	Excel_Analytics )BAT	MAX5_OLEDB.xlsm - Excel				
	Calibri - 11 - A	≡ ≡ <u></u>	🛛 🗞 - 📑 Wrap Text	General	*		Calculation			
Pa	ste 💞 Format Painter B I 🛄 👻 🖽 🗸 🖉 🗸	<b>↓</b> = = =	🗧 🖅 🗒 Merge & Center 🔻	\$ - %	• •.0 .00 • •.0 •.0	Conditional Format as	Explanatory			
	Clipboard 5 Font	5	Alignment 5	Num	ber 🗔	đ	Styles			
A	17 🔹 : 🗙 🗸 $f_x$ Sales Dollar	5								
24	A	В	С	D		E				
1	1 CONTENTS									
2	FINANCE		COSTING		PARTS					
3	Sales History by Customer	Part C	Part Cost Data		Part Attributes					
4	Sales History by Rep	Multi	Multiple Cost Data Sets		MRP Part Attributes					
5	Book-to-Bill Ratio	Inven	Inventory Value by GL Acct		Parts with No Cost					
6	Margin Analysis by Part	Cost C	Conversion Problems		Parts with N	No Leadtime				
7	Margin Percent by Part - with chart	Cost T	ype Problems		Shop Parts	with No BOMs or Routi	ngs			
8	Margin Dollars by Part - with chart	From-	To Charge Analysis							
9	Margin Analysis by Customer									
10	Margin Percent by Customer - with chart									
11	Margin Dollars by Customer - with chart					PRODUCTION				
12	Today's Invoices				Actual Lead	times for Shop Parts				
13	Yesterday's Invoices				Shortages b	y Shop Order				
14										
15										
16	SALES ORDERS		TRANSACTIONS			PURCHASING				
17	Sales Dollars	Inven	tory Transactions		Purchasing	Dollars				
18	Sales Quantities	Scrap	by Part Number		Purchasing	Quantities				
19	Sales Orders - Due Today or Late	Scrap	by Work Center		Vendor Hist	tory				
20	Sales Orders - Summary	Cycle	Count Variances		Vouchering					
21	Sales Bookings	Cycle	Count Performance		Vendor Mas	ster Data				
22	Forecast Orders	Shop	Order Operations		Actual Lead	times for Buy Parts				
23	Customer-Based Pricing	Lot an	d Serial Transactions							
24	On-Time Shipments	Lot an	d Serial Inventory			ALTERNATE PROCESS	ËS			
25	Top 10 Customers - chart	Lot an	d Serial Inventory Aging		Alternate B	ills of Material				
26	Customer Master Data				Alternate R	outings				
27	Ship To Addresses				Shop Order	s with Alternates				
00										

Figure 2. Excel Analytics Contents – Create your own pivot tables and data views

#### SQL Server Reporting Services (SSRS)

The Microsoft SQL Server which MAX operates on is shipped with its own report writer application called SQL Server Reporting Services (SSRS), thus it is available to be used to create custom MAX reports. SSRS reports are typically deployed through a report server.

- Connect directly to MAX database in SQL.
- Link MAX tables as required.
- Leverage powerful and fast scripting language to process MAX data into information.
|                     | CapMenu - Microsoft SQL Server Re |                  |                             |                   |           |            |                                       |      |        |  |  |
|---------------------|-----------------------------------|------------------|-----------------------------|-------------------|-----------|------------|---------------------------------------|------|--------|--|--|
|                     | Home                              | Home Insert View |                             |                   |           |            |                                       |      |        |  |  |
| Run                 | Paste                             | B I U A          | × ×<br>× A a                |                   | 1pt v 🐎 v |            | iii Merge<br>iii Split<br>iii Align ▼ |      |        |  |  |
| Views               | Clipboard                         | Font             | Q.                          | Paragraph 💿       | Border G  | Number     | Layout                                |      |        |  |  |
| Report Data X       |                                   |                  |                             |                   |           |            |                                       |      | . 7 8  |  |  |
| New - Edit X        |                                   |                  |                             |                   |           |            |                                       |      |        |  |  |
| <ul> <li></li></ul> |                                   |                  |                             |                   |           |            |                                       |      |        |  |  |
| <ul> <li></li></ul> |                                   |                  |                             | Capacity Planning |           |            |                                       |      |        |  |  |
|                     |                                   |                  | Available Reports/Functions |                   |           |            |                                       |      |        |  |  |
|                     |                                   |                  | - Set                       |                   |           | Rough C    | ut                                    | Pri  | ority  |  |  |
|                     |                                   |                  | :                           | [RptName          | 1         | [RptName2] | 1                                     | [Rej | port3] |  |  |
|                     |                                   |                  |                             | «Expr»            |           |            |                                       |      | «Expr» |  |  |

Figure 3. Use the power of SQL Server Reporting Services (SSRS) to deploy MAX reports.

## Alerts & Automation – KnowledgeSync Alerts & Automation (KSAA)



Exceptions are inevitable to every business. Even the most meticulously planned and well-defined operations will have to deal with exceptions, and the successful handling of those exceptions can prevent potential costly errors from becoming actual costly errors.

ECI Software Solutions' KnowledgeSync Alerts & Automation (KSAA) application's timely recognition of exceptions and efficient, reliable warning system ensure that everyone is on the same page and that your business will not suffer because a key member of your team is working with outdated information.

Users may receive many different types of notifications (i.e., automate emailing of invoices, generate reports of late shipments, etc.) in their organizations. Events can help eliminate manual tasks and human error, provide immediate and accurate information to key personnel, generate early awareness to problems and align individual actions to priorities.

	Application > Events List					
🕼 Event Designer 🛛 🗸	Applications	Events of ECI MAX Inventory				
Application Events	New App New Folder	New Event Run Now Copy Event Paste Event Search Description				
Subscribers	Search	Description	Priority :			
EventPak V	Figure 2 - Construction - Const	☑ Inventory; Qty On-Hand < Safety Stock	5			
🖵 Monitor 🗸 🗸	Gample Application      Gmt Add Application      MAX_HDY_Events	Parts; Rel to Prod Today	5			
🛔 Admin 🗸 🗸	<ul> <li>▶ ↓ Eci MAX AP</li> <li>▶ ↓ Eci MAX AR</li> </ul>					
	▲ CEI MAX Inventory ⊕ Queries					
	F Events	Image: Non-Section of the section of				

Figure 4. Use the power of SQL Server Reporting Services (SSRS) to deploy MAX reports.

Use the data in the database to work for you. Here is a sample of what you can monitor:

- Email sales order acknowledgements and invoices to customers
- Update purchase orders so they are received into Incoming Inspection.

- Alert the Finance department about any customers whose aged receivables go over 'x' dollars in the 'over 30', 'over 60' or 'over 90' day buckets.
- Send recall email to customers who bought Product 'x' with lot number 'y'.
- Increase/decrease Unit Prices in the Part Sales table by 'x'%
- Identify parts with no cost, Cost Type errors or Cost Conversion errors
- Identify purchase orders that have not been acknowledged.
- Identify customers who have not reordered in the last 'x' days.
- Automatically distribute updated product literature and price lists

KSAA will prevent costly errors by helping your company enhance its internal communications.

## **Reporting Summary**

For decades, MAX has been known for its open database. It is your data. Whether you want to verify data it, analyze it or use it produce charts and graphs, just pick the tool of choice, and turn data into information to operate your business. Use alerts and automation to drive the correct actions throughout your organization.

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## **ERP Software**