



**Mantissa**  
CORPORATION



Service  
Catalog  
2010



Sortation *Simplified*<sup>™</sup>

## OUR MISSION

Applying simple design and leading-edge technology, we will solve our customers' material handling problems with intelligent yet flexible solutions, while ensuring superior quality in all that we do. By embracing our mission with fun and passion, we will create value for both our customers and ourselves.

## OUR VISION

We aspire to be the premier provider of sortation technology in the world, expanding our markets by pursuing the continued development of our people, products, and processes. To achieve our goals, we will work smarter while fostering creativity, effective communication, and respect for one another. In realizing our vision, the company and our people will not only survive but *thrive!*

## OUR VALUES

These are the things we value and will protect, shaping everything we do.

- Honesty Based on Reality
- Passion & Creativity
- Dependability
- Seeking win-win solutions
- Financial Responsibility
- Continuous Improvement & Learning
- Respect
- Teamwork
- Commitment to Excellence
- Relationships
- Corporate Courage
- An Enjoyable Workplace

# Menu of Services

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## What Is It?

It's not rocket science. But in order to ensure consistent trouble-free operation of your Mantissa® Material Handling System, a proactive approach needs to be taken, including a *plan of action*.

Our recommendation is that such a plan be comprised of two elements: The customer's routine on-site maintenance efforts utilizing its own internal staff trained by Mantissa and periodic site inspections by Mantissa personnel under our Bronze/Silver/Gold Preventative Maintenance Program.

The Mantissa® Bronze/Silver/Gold Program is an organized and cost-effective endeavor to enhance and support the established maintenance and service efforts of our customers. This program is designed with flexibility to meet the diverse needs and circumstances of our clients, including varying levels and expertise of maintenance staff, differing amounts of machine use, and unique business philosophies.

Bronze, Silver, and Gold represent the three levels of service available, based on the number of system inspections the customer chooses per year.

**Bronze**—One (1) service call once a year of up to three (3) man-days, including complete electrical device and mechanical component review.

**Silver**—Two (2) service calls per year of up to three (3) man-days per trip, including complete electrical device and mechanical component review.

**Gold**—Three (3) service calls per year of up to three (3) man-days per trip, including complete electrical device and mechanical component review.

Bronze/Silver/Gold is no substitute for the required regular routine system maintenance as detailed in the Mantissa Operations and Maintenance Manuals. But, it does provide an enhanced effort by the experts who designed the equipment.

**Note:** The proposed number of hours per the various Bronze/Silver/Gold Program levels is not intended to suggest or imply in any way the total number of hours per year required for a sound preventative maintenance program.

Bronze/Silver/Gold does encourage the conscientious care of the equipment in terms of maintenance, training, and timely, effective communication. This program is the best course of action for our customers to protect their investment, and insure many years of productive, successful system operation.



## How Does It Work?

The Mantissa® Bronze/Silver/Gold Preventative Maintenance Program is proven valuable through the various program features that have evolved over the years to provide thorough, effective results.

- **Preventative Maintenance Procedure and Check List** - The job site inspection is guided by a concise procedure and checklist. It includes a visual inspection and physical inspection of the sortation system components. This may be a full inspection (i.e. - drive systems) or a random inspection (i.e. - tilt modules) depending on the type of components. Regardless, there is sufficient inspection to form an expert opinion on the condition and maintenance of the system.
- **Correction of Site Conditions** – Although the primary goal is a thorough inspection and assessment of the system condition, Mantissa will make adjustments or corrections as time and resources allow.
- **Office Inspection of Critical Components** – In some cases, as part of our work on-site and with customer approval, Mantissa will remove and replace samples of the sorter core components (TipLoc™, tilt module and axle assemblies, etc.). The replacement parts are typically “borrowed” from the spare parts cart. The removed parts are sent to Mantissa’s headquarters for a more detailed and comprehensive inspection.
- **Return of Sample Inspection Components** – Mantissa’s engineers inspect the sample components and provide feedback in the trip report. This input from additional resources adds further insight to the condition of the system. The sample parts are then returned to the customer in serviceable condition. Any parts or labor required to bring the sample components to serviceable condition is provided at no additional charge.
- **Off Hours Maintenance Work** - Other than observation, most of the inspection and adjustments need to be done during hours when the sorter is not in use for production. Special arrangements may be necessary for access to the equipment during the “off” hours.
- **Trip Duration** - In most cases the inspection and report takes two days on site.
- **Customer On Site Support** - For security and safety reasons, our customers are required to provide at least one experienced maintenance staff personnel to assist Mantissa during the complete inspection process.



## What Areas of the System Does It Cover?

The job site inspection encompasses the following areas of the sortation system.

- ☑ **Linear Induction Drives (LID) or Green Drives**
- ☑ **Carrier Assemblies**
- ☑ **Tilt Modules**
- ☑ **Trays**
- ☑ **TipLoc™ Assemblies**
- ☑ **Tray Straighteners**
- ☑ **Inch Pulse Array**
- ☑ **Additional Controls Equipment – Empty/full tray sensors, tip verify sensors, chute jam and chute full sensors, emergency stop switches, etc.**
- ☑ **Chute systems**
- ☑ **Automatic Inductors**
- ☑ **Safety Related Equipment**
- ☑ **General Site Inspection – machine hours, maintenance log review, spare parts inventory, etc.**

## What Are the Benefits?

**Mantissa Expertise** - As the manufacturer, Mantissa is most capable of inspecting and analyzing the operation and performance of its systems and assessing the level of care. We come in as an objective outsider with both experience and an objective approach to evaluate the equipment and suggest maintenance improvements in support of the customer's ongoing initiatives.

**Program Customization** - Mantissa varies the program to suit the unique levels of need of our various customers.

**Supplemental Staff Training** - Training occurs naturally, as Mantissa works along with the customer's staff.

**Detailed Report of Site and Office Review of System** – Mantissa utilizes a Preventative Maintenance Procedure and Check List that includes observations and comments from both our field and office staff related to the condition and maintenance of the system. This working document is reviewed and forwarded to our customers as a complete record of the trip. This report summarizes Mantissa's actions, findings and recommendations, providing the customer with valuable feedback for establishing a more effective or improved maintenance program.



## What Does It Cost?

**Pricing** – Call our Mantissa Customer Service Department at 704-525-1749 or email us at [CustomerService@MantissaCorporation.com](mailto:CustomerService@MantissaCorporation.com) for current rates.

**Invoicing** - Each level of service has a base price plus travel expenses. The base price is invoiced and paid at the time of enrollment or renewal. Invoicing for the trip related expenses is done after each trip is completed and the trip report is issued.

**Expenses** - Travel related expenses (hotels, airfare, rental car, and per diem) are invoiced at cost plus 10%.

**Period of Contract** – This is a one-year program. It starts at the time of enrollment, which may not coincide with the calendar year.

**Scheduling** – At the time of enrollment or renewal, Mantissa sets up tentative timeframes that are convenient for all parties. As the proposed time approaches, the actual trip dates are confirmed. Mantissa generally locks in the trip schedules early enough to take advantage of advance travel discounts. Pricing is based on Monday through Friday service days.

**Cancellation** – If circumstances arise that make it necessary for the client to postpone or cancel a trip scheduled for within (14) days, the client will be responsible for all costs resulting from altered or cancelled travel arrangements.

## How Do I Sign Up?

**Call Us!** – We'll be happy to discuss with you further details of the Mantissa® Bronze/Silver/Gold Preventative Maintenance Program and help customize a program to meet your specific needs. Call our Mantissa Customer Service Department at 704-525-1749 or email us at [CustomerService@MantissaCorporation.com](mailto:CustomerService@MantissaCorporation.com) for more information, and learn how you can add years of beneficial use to your Mantissa sortation system.



## SUPPORTING OUR SYSTEMS - SOS™

### What Is It?

SOS is a universal call for help. But at Mantissa the term has come to mean *Supporting Our Systems* – our program for providing qualified Mantissa resources outside of our normal business hours (8:00 a.m. – 6:00 p.m. EST) to assist customers in getting their equipment back into service in the unlikely event of a system failure.

### How Does It Work?

SOS™ is a fixed price plan, renewable on an annual basis, which provides our customers with a contractual commitment for timely technical support. Once enrolled in SOS, the customer is assigned a unique customer code number to use when calling the Mantissa toll-free number. This code will enable the customer to reach a Mantissa representative on call who will then contact the appropriate technician to respond to the customer's request as soon as possible.

### So What Do I Do If My System Goes Down?

In the event of any system failure, the first step is to try to identify and solve the problem, utilizing system error messages, knowledge and troubleshooting techniques acquired during Mantissa system training as well as diagnostic steps outlined in the Mantissa Operations and Maintenance manuals.

Should the problem persist after normal corrective measures are taken, the designated customer representative(s), with management approval, should call Mantissa using the SOS toll-free number.

### And Then What Happens?

The customer will be instructed to enter their SOS customer code and leave a message, including name, company, time of call, phone number where they can be reached, and a detailed message describing the problem. A Mantissa representative will be paged immediately, and call the customer in order to gather sufficient data to determine the appropriate resource(s) to provide the necessary level of technical expertise.



## SUPPORTING OUR SYSTEMS - SOS™

The technical support event is then recorded in a log maintained by our Customer Service Department. A follow-up call is made by a Customer Service Representative to insure the recommended corrective action was successful. The customer is then provided with an action report for future reference.

### Response Time

The range of technical resources with the *unique* knowledge required to address *specific* problems at a *specific* site realistically prevents Mantissa from guaranteeing an exact window for response time, and that specific resources *always* be available to a customer at any given time.

### So Why Should We Enroll in this Program?

SOS provides the best assurance that our customers can reach experts uniquely familiar with their systems when and if they need help. In most cases, Mantissa's technical support combined with the customer's on-site personnel and spare parts inventory (back-up computers, electrical and mechanical components) is sufficient to bring a system back into service in a timely manner.

SOS is convenient. No additional paperwork. No additional charges beyond the annual fee to subscribe to the program. SOS. It's what you do when you need help.

### What Does It Cost?

Please call our Mantissa Customer Service Department at 704-525-1749 or email [CustomerService@MantissaCorporation.com](mailto:CustomerService@MantissaCorporation.com) for current rates.

### How Do I Sign Up?

**Call Us!** – We'll be happy to discuss further details with you. Call our Mantissa Customer Service Department at 704-525-1749 or email [CustomerService@MantissaCorporation.com](mailto:CustomerService@MantissaCorporation.com) for more information.



## What Is It?

The Maintenance Man service is offered to provide a Mantissa maintenance professional at your facility to perform or oversee routine mechanical maintenance tasks as outlined in your Mantissa Maintenance and Operations Manual.

## How Does It Work?

Whether you need to minimize the workload of your maintenance staff or would simply like to learn firsthand the proper maintenance procedures from the experts, Maintenance Man is designed to fulfill your needs.

**Off Hours Maintenance Work** - Most maintenance and adjustments need to be done during hours when the equipment is not in use for production. Special arrangements may be necessary for access to the equipment during the “off” hours.

**Customer on Site Support** - For security and safety reasons, our customers are required to provide at least one experienced maintenance staff personnel to assist Mantissa during the performance of maintenance tasks.

## What Areas of the System Does It Cover?

Mantissa’s Maintenance Man service is available for any mechanical system component, field serviceable or replaceable parts.

## What Are the Benefits?

**Mantissa Expertise** - As the manufacturer, Mantissa is most capable of performing maintenance tasks to optimize the operation and performance of its systems. We have found it extremely beneficial to enhance and support the efforts of the maintenance staff with our own expertise. We come in as an objective outsider with the experience and fresh approach to maintain the equipment and perform maintenance improvements.

**Program Customization** - Mantissa varies the program to suit your specific maintenance needs.

**Supplemental Staff Training** - Training occurs naturally as Mantissa works along with our customer’s staff.



## What Does It Cost?

**Pricing** – Call our Mantissa Customer Service Department at 704-525-1749 or email [CustomerService@MantissaCorporation.com](mailto:CustomerService@MantissaCorporation.com) for current rates.

**Invoicing** – Work is billed in whole day increments. Travel time is billed on an hourly basis with a minimum of four (4) hours per one-way trip. The invoice for trip related expenses and services performed is sent after each trip is completed.

**Expenses** - Travel related expenses (hotels, airfare, rental car, and per diem) are invoiced at cost plus 10%.

**Scheduling** – At the time of receipt of the purchase order, Mantissa sets up tentative timeframes that are convenient for all parties. As the proposed time approaches, the actual trip dates are confirmed. Mantissa generally locks in the trip schedules early enough to take advantage of advance travel discounts. Schedule may be affected by availability of personnel who are most knowledgeable of a client's specific application.

**Cancellation** – If circumstances arise that make it necessary to postpone or cancel a scheduled trip within (14) days, the client will be responsible for all costs resulting from altered or cancelled travel arrangements.

## How Do I Sign Up?

**Call Us!** – We'll be happy to discuss further details with you. Call our Mantissa Customer Service Department at 704-525-1749 or email [CustomerService@MantissaCorporation.com](mailto:CustomerService@MantissaCorporation.com) for more information.



## What Is It?

System Audit service provides a comprehensive evaluation that details the current operational state of your system. An analysis is performed of how well the system functions overall with respect to Mantissa authored software for sorter control and operation.

System Audit can also be used as a vehicle for clients to have Mantissa investigate and analyze specific attributes of their sorting process. This service is a way for clients to have an experienced consultant check the compatibility of any changes that you would like to make to your system (i.e. *I want to purchase new scanners for my system., My product mix is changing., I want to add a new WMS., etc.*). System Audit can also be used to evaluate the safety features of your system, making sure everything is labeled and working as it was originally intended.

Whether you need to evaluate the current operational state of your system, would like Mantissa to investigate specific areas of your sorting process, or evaluate your system's safety features, System Audit is designed to fulfill your needs.

## How Does It Work?

A Mantissa consultant performs an on-site analysis of your system using observation of production, operational, supervisory and management staff interviews, along with an evaluation of the current software and sorter controls. Recommendations may be offered to optimize operational functions, improve existing processes or add additional functionality to an existing system.

**Note:** For security and safety reasons, our customers are required to provide at least one experienced maintenance staff employee to assist Mantissa during the complete audit process.

## What Areas of the System Does It Cover?

The System Audit can encompass any Mantissa-provided components and/or other related third party systems in your facility.

## What Are the Benefits?

**Mantissa Expertise** - As the manufacturer, Mantissa is most capable of evaluating the operation and performance of its systems and assessing its overall functions. We come in as an objective professional with the experience and fresh approach to evaluate the state of your system and, if appropriate, recommend improvements.



**Program Customization** - Mantissa varies the program to suit the unique needs of our various customers.

**Detailed Report of System Audit** – This document is reviewed and forwarded to our customers as a complete record of the audit. This report summarizes Mantissa’s findings and recommendations, providing the customer with valuable feedback for establishing a more effective or improved sorting processes.

## What Does It Cost?

**Pricing** – Call our Mantissa Customer Service Department at 704-525-1749 or email [CustomerService@MantissaCorporation.com](mailto:CustomerService@MantissaCorporation.com) for current rates.

**Invoicing** - Work is billed in whole day increments. Travel time is billed on an hourly basis with a minimum of four (4) hours per one-way trip. The invoice for trip related expenses and services performed is sent after each trip is completed.

**Expenses** - Travel related expenses (hotels, airfare, rental car, and per diem) are invoiced at cost plus 10%.

**Scheduling** – At the time of receipt of the purchase order, Mantissa sets up tentative timeframes that are convenient for all parties. As the proposed time approaches, the actual trip dates are confirmed. Mantissa generally locks in the trip schedules early enough to take advantage of advance travel discounts. Schedule may be affected by availability of personnel who are most knowledgeable of a client’s specific application.

**Cancellation** – If circumstances arise that make it necessary for the client to postpone or cancel a trip scheduled for within (14) days, the client will be responsible for all costs resulting from altered or cancelled travel arrangements.

## How Do I Sign Up?

**Call Us!** – We’ll be happy to discuss with you further details of the System Audit service. Call our Mantissa Customer Service Department at 704-525-1749 or email [CustomerService@MantissaCorporation.com](mailto:CustomerService@MantissaCorporation.com) for more information.



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## SUPPLEMENTAL TRAINING

### What Is It?

Supplemental Training is an educational service offered to refresh existing personnel or train new hires by a Mantissa expert in one of three areas; Supervisory, Maintenance or Operational fundamentals in working with your Mantissa system. Designed to complement your system documentation, the sessions are held in a classroom environment allowing individuals to participate with questions that apply specifically to their job responsibilities. Additionally, actual hands-on training can be provided on the tilt-tray, if the production schedule allows.

A sign off sheet is provided for each trainee to indicate they have attended the training session. Mantissa will provide certification that the training has taken place, listing the individuals who have demonstrated competency in the safe and proper operation of the equipment.

### What Areas of the System Does It Cover?

Supplemental Training can be tailored to any of the three categories covering the topics listed below:

**Supervisory** - Training program will provide the client's supervisory and management personnel with training of all system equipment operations from a management level. Topics include:

- Overview
- Safety Procedures
- System Operation
- Plant Interface
- Documentation
- Troubleshooting
- Supporting Services

**Maintenance** - Training program for client personnel focuses on proper installation, operation, and maintenance of the equipment. Topics include:

- General system description
- Operating instructions
- Safety procedures
- Maintenance and inspection information
- Component assembly
- Troubleshooting



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## SUPPLEMENTAL TRAINING

- Spare parts
- Manufacturers' brochures, manuals, and bulletins
- Layouts and assembly drawings

**Operational** - Training focuses on providing personnel with sufficient knowledge for the safe and effective operation of the equipment. Topics include:

- Operational overview
- General theory of operation
- Safety procedures
- Start up - shut down procedures
- Operational procedures
- Site Specific Software functionality
- Alarm response

### What Are the Benefits?

**Mantissa Expertise** - As the manufacturer, Mantissa is most capable of training personnel in the safe and effective operation of its systems.

**Program Customization** - Mantissa varies the program to suit the unique levels of training needs of our various customers.

### What Does It Cost?

**Pricing** - Call our Mantissa Customer Service Department at 704-525-1749 or email [CustomerService@MantissaCorporation.com](mailto:CustomerService@MantissaCorporation.com) for *each* area of training.

**Invoicing** - Work is billed in whole day increments. Travel time is billed on an hourly basis with a minimum of four (4) hours per one-way trip. The invoice for trip related expenses and services performed is sent after each trip is completed.

**Expenses** - Travel related expenses (hotels, airfare, rental car, and per diem) are invoiced at cost plus 10%.

**Scheduling** – At the time of receipt of the purchase order, Mantissa sets up tentative timeframes that are convenient for all parties. As the proposed time approaches, the actual trip dates are confirmed. Mantissa generally locks in the trip schedules early enough to take advantage of advance travel discounts. Schedule may be affected by availability of personnel who are most knowledgeable of a client's specific application.



## SUPPLEMENTAL TRAINING

**Cancellation** – If circumstances arise that make it necessary to postpone or cancel a scheduled trip within (14) days, the client will be responsible for all costs resulting from altered or cancelled travel arrangements.

### How Do I sign up?

**Call Us!** – We'll be happy to discuss with you further details of Supplemental Training and help customize a training program to meet your specific needs. Call our Mantissa Customer Service Department at 704-525-1749 or email [CustomerService@MantissaCorporation.com](mailto:CustomerService@MantissaCorporation.com) for more information.



## How to Order Spare Parts

To place an order for spare parts, or to obtain pricing either:

1. Call Mantissa Corporation  
Customer Service Department  
(704) 525-1749

Call between the hours of 8:00 AM and 5:00 PM Eastern Standard Time.

2. Email [CustomerService@MantissaCorporation.com](mailto:CustomerService@MantissaCorporation.com)

**Please Note: A purchase order number is required on all orders.**



## PROCESSING WARRANTY CLAIMS

### How to Process Warranty Claim Requests

For warranty claim returns call (800)-200-8470 or e-mail us @

[CustomerService@MantissaCorporation.com](mailto:CustomerService@MantissaCorporation.com).

Be prepared to provide:

- Part number
- Description of the part
- Defective disposition of the component

Mantissa Corporation will issue to you a RMA (Return Material Authorization) number.

Ship the part(s) to us pre-paid. Mantissa will cover the return shipment costs of eligible warranty replacement parts.

**Please note: All defective parts will be inspected to establish the validity of the claim.** If a claim is denied, you will be provided a written statement of explanation. At that time, you may be requested to provide a purchase order number for a replacement part.

