



MOUSER ELECTRONICS QUALITY MANUAL

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1.0 Forward

This manual is issued to describe the Quality Management System of Mouser Electronics (hereafter referenced as Mouser). The manual numbering is structured to match the standard. The Quality Manual is issued and controlled by Mouser's Quality Department.

Mouser's Quality Management System serves to improve customer satisfaction, fulfill quality objectives, and facilitate continual improvement.

It is the responsibility of the President and the Director of Quality to ensure that this manual is maintained as a current reflection of the Mouser Quality Management System.

2.0 Introduction

Mouser Electronics believes in providing design engineers and buyers of semiconductors and electronic components the best possible service, regardless of the size of the customer or the size of the order. Mouser Electronics' product lines include Semiconductors, Passives, Interconnects, Electromechanical, Power Sources, and Specialty Products.

In January 2000, Mouser Electronics, Inc. became a subsidiary of TTI, Inc. The Chairman of Mouser Electronics, Inc. is Paul Andrews; President and CEO, Glenn Smith; Senior Vice President of Products, Barry McConnell.

On March 5th, 2002, we celebrated the Grand Opening of our new warehouse and office facility. The new facility allowed Mouser to consolidate operations in Mansfield, Texas, allowing for efficiency as well as growth.

To better serve our customers, in early 2007, Mouser completed an extensive expansion of its corporate headquarters – more than doubling the space for offices, call and data centers, as well as its state-of-the-art warehouse.

The new data center features a pre-action fire suppression system, connections to multiple power sources, and a dedicated fiber communications ring to ensure uninterrupted internet operations – a core component of Mouser's global sales operations.

The warehouse greatly expanded to include a new ESD (Electro Static Discharge) area for safe storage of active components.

Also in 2007, the success of Mouser and TTI caught the attention of Warren Buffett and his investment company Berkshire Hathaway, Inc., which acquired both companies in March 2007. Mouser and TTI were granted the freedom to continue their successful business ways, plus gained the financial strength of Berkshire Hathaway.

Today, the combined resources of Mouser Electronics and TTI, with the financial strength of Berkshire Hathaway, Inc., offer a complete solution for both customers and suppliers. Products can be "prototyped in" at the R & D level through Mouser, then transitioned to global production quantities at TTI. This complete solution is unique in the electronics distribution industry.

3.0 Mission Statement

Be the source most preferred by design engineers and small production buyers for the products to design, prototype, test, and manufacture electronics.

4.0 Quality Management System

4.1 General Requirements

Mouser has established, documented, and implemented a Quality Management System which is continuously maintained for effectiveness and process improvements in accordance with the requirements of SAE AS9120A/ISO 9001:2008.

- a. The processes needed to operate the Quality Management System have been determined and documented.
- b. The sequence and interactions of these processes has been determined.
- c. The criteria and methods needed to ensure the operation and control of these processes is documented and effective. Criterion is defined in the procedures and is in line with the Quality Policy and Quality Objectives. Methods include Internal Audit and Quality Reports.
- d. Information and resources to support the operation and monitoring of these processes is available. Management is committed to properly resource the Quality System and Information Systems of the company.
- e. Mouser monitors, measures where applicable, and analyzes these processes.
- f. Based on these measurements and controls Mouser will implement actions necessary to achieve planned results and continual improvement of these processes.

4.1.1 These processes will be managed by Mouser in accordance with SAE AS9120A/ISO 9001:2008.

4.1.2 Outsourced processes will be identified and controlled when outsourcing is required. See procedure [QS-PR-017 Outsourced Processes](#).

4.1.3 The quality management system will address customer and applicable statutory and regulatory quality management system requirements.

4.2 Documentation Requirements

4.2.1 General

Mouser's Quality Management System includes the following documentation.

- a. Mouser has defined and documented a Quality Policy and Quality Objectives. See section 5.3 and 5.4.1.
- b. Mouser has prepared a quality manual. See Section 4.2.2
- c. Mouser has documented the procedures and records required by SAE AS9120A/ISO 9001:2008 and procedures and records needed for the effective planning, operation, and control of processes.

- d. Mouser keeps records required by SAE AS9120A/ISO 9001:2008. See procedure [QS-PR-008 Record Control](#).
- e. Mouser employees have access to, and are aware of, relevant quality management system documentation and changes.

4.2.2 Quality Manual

Mouser has established and maintains this Quality Manual. The Quality Manual is approved by the President of Mouser and the Director of Quality. This manual includes a scope and exclusions as defined in Section 4.2.2.1 and 4.2.2.2. In addition to this manual there are procedures required to operate this Quality Management System. In this manual there will be reference to them as appropriate. A full listing of the procedures is available upon request. A description of the interaction between the core processes of the Quality Management System is given in Appendix A.

Quality Manual revision history is maintained in Appendix C of this document.

4.2.2.1 Scope

The scope of the Quality Management System is as follows.

Distributor of Electronic Components and Supplies, including Optoelectronics, Embedded Solutions, Semiconductors, Circuit Protection, Passive Components, Interconnects, Wire & Cable, Electromechanical, Sensors, Enclosures, Thermal Management, Power, Test & Measurement and Tools.

And includes the facilities located at the following location.

Mouser Electronics, Inc.
Corporate Headquarters
1000 North Main Street
Mansfield, Texas 76063

4.2.2.2 Exclusions

- a. 7.3 Design and Development – Mouser does not design any of the products it sells.

4.2.3 Control of Documents

Mouser controls the documents required by the Quality Management System. This is performed through a documented Document Control process. See procedure [QS-PR-004 Document Control Process](#) for details on controlling documents.

4.2.3.1 Documents of External Origin

These documents are addressed in procedure [QS-PR-009 External Document Control](#).

4.2.4 Control of Records

Records have been established and are maintained which specifically provide evidence of meeting requirements and the effectiveness of the Quality Management System. This will include records of product origin, conformity and shipment in accordance with customer, statutory and regulatory requirements, where appropriate. These records will remain legible and will be readily identifiable and retrievable. See procedure [QS-PR-008 Record Control](#) for a summary of records and the controls needed for identification, storage, protection, retrieval, back-up, retention, and disposition.

4.2.4.1 Electronic Records

Records stored in electronic form have defined back-up procedures. They are secured to prevent unauthorized alteration or change and will not be corrupted due to software system changes.

5.0 Management Responsibility

5.1 Management Commitment

Senior Management is committed to resourcing, operating, and maintaining an effective Quality Management System. The Quality Policy, Quality Objectives, and Management Review serve as evidence of this commitment. Through company meetings, employees learn the importance of meeting customer requirements and having an effective Quality Management System.

Senior Management has established a Quality Council. Members of the Quality Council are as follows:

- President & CEO
- Director of Quality (Management Representative)
- Business Operations Department Head
- America Sales Department Head
- Products Department Head
- Internet Business Department Head
- Technical Marketing Department Head

5.2 Customer Focus

Senior Management employs a number of ways to ensure that customer requirements are identified and properly fulfilled and that customer satisfaction is measured. Product conformity and on-time delivery performance is measured. Appropriate action is taken if planned results are not, or will not be, achieved. See procedure [QS-PR-006 Quality Measurements](#) for more detail.

5.3 Quality Policy

Mouser's quality policy was developed by the Quality Council to communicate Mouser's commitment to quality and meeting customer requirements. It is considered appropriate by Senior Management. The Quality Policy is revalidated at each Management Review meeting.

Quality Policy

Mouser Electronics is committed to gratifying and astonishing customers with our customer service excellence, order accuracy and on-time delivery. This is accomplished through our commitment to continual improvement of our processes, services, products and our people.

5.4 Planning

5.4.1 Quality Objectives

Executive management has set strategic top-tier quality objectives for the company, see below. They are consistent with the Quality Policy. Sub-tier quality objectives are established on processes where it is warranted to establish effectiveness of the process. Quality objectives will be measureable.

- Total Customer Satisfaction
- Customer Service Excellence
- On-Time Delivery
- Order Accuracy
- Continual Process Improvement

5.4.2 Quality Management System Planning

The President and Director of Quality have planned the establishment of the Quality Management System. This planning will show up in Management Review or Corrective or Preventive Action Plans. Changes to the Quality System are planned. Each manager initiating a change will do so only after careful analysis and planning. Major changes will be planned and controlled.

5.5 Responsibility, Authority and Communication

5.5.1 Responsibility and Authority

Responsibilities and authorizations are documented in this manual, procedures, and Job Descriptions.

5.5.2 Management Representative

The President has appointed the Director of Quality as Management Representative for Mouser. The Management Representative has the authority and responsibility for:

- a. Ensuring processes needed for the Quality Management System are established, implemented, and maintained.

- b. Reporting on the performance of the Quality Management System to management and any need for improvement. See procedure [QS-PR-006 Quality Measurements](#) for more detail.
- c. Promoting awareness of customer requirements throughout the organization.
- d. And has the organizational freedom and unrestricted access to top management to resolve quality management issues.

5.5.3 Internal Communication

The Quality Council has established the following communication channels to ensure the performance and effectiveness of the Quality Management System are communicated to the employees of Mouser:

- Management Meetings
- Department Meetings
- Performance Metrics posted on bulletin boards
- Performance Metrics posted to the Intranet

5.6 Management Review

5.6.1 General

The Quality Council will meet at planned intervals, not to exceed 12 months, to perform Management Review per procedure [QS-PR-001 Management Review Process](#). Management Review records are maintained.

5.6.2 Review Input

The following are reviewed as part of Management Review to assess the ongoing suitability of Mouser's Quality System:

- a. results of audits,
- b. customer feedback,
- c. process performance and product conformity,
- d. status of preventive and corrective actions,
- e. follow-up actions from previous management reviews,
- f. changes that could affect the quality management system, and
- g. recommendations for improvement

5.6.3 Review Output

Management review meeting notes include any decisions/actions related to the following:

- a. improvement of the effectiveness of the quality management system and its processes,
- b. improvement of product related to customer requirements, and
- c. resource needs.

6.0 Resource Management

6.1 Provision of Resources

Mouser's management is responsible for identifying and procuring the resources needed to fulfill the requirements of Mouser's Quality Management System, provide for its continual improvement and effectiveness, and the enhancement of Customer Satisfaction.

6.2 Human Resources

6.2.1 General

Mouser's management at all levels is responsible for ensuring personnel under their supervision performing work affecting conformity to product requirements are competent on the basis of education, training, skills, and experience.

6.2.2 Competence, Training and Awareness

- a. Managers and Human Resources determine the required competence for each position. Competence is defined as having the appropriate qualifications for a position or task. Qualifications for each position are documented in the corresponding Job Description. See procedure [HR-PR-003 Performance Review - Non-Management](#) for more detail.
- b. Mouser identifies training requirements during initial hiring and employee performance reviews using qualifications listed in the Job Description. Training requirements will be determined for Corrective/Preventive Actions.
- c. Training is evaluated for effectiveness through employee performance reviews and Corrective/Preventive Action follow-up.
- d. Mouser maintains Training Records on each employee. These records will contain objective evidence of an individual's qualifications. See procedure [QS-PR-020 Training Program](#).
- e. Mouser employees are made aware of the relevance and importance of their work performance and how this supports Mousers' Quality Objectives. Employee bonuses are tied to Quality Metrics.

6.3 Infrastructure

Mouser management determines, provides, and maintains the infrastructure needed to meet product requirements. Infrastructure needs are evaluated and planned during process improvements. Infrastructure needs are also identified in Corrective and Preventive Actions.

6.4 Work Environment

Mouser management determines, provides, and maintains the work environment needed to meet product requirements and employee safety. Managers are responsible for the work environment within their managed work area.

7.0 Product (Service) Realization

7.1 Planning of Product Realization

Product realization at Mouser is defined as purchasing electronic components and supplies, warehousing it, and then creating and delivering a Customer Order which meets the customer's requirements. Product realization is a planned process at Mouser. Evidence of this planning are the procedures, records, and measurements currently in place. Product realization records are maintained in the Mouser Business System and Warehouse Control System.

When further planning is needed, Senior Management will set a policy which regulates product realization. Departmental managers will plan for product realization within the scope of their position. The planning will include as appropriate:

- a. **Quality objectives** for the process to ensure effectiveness of the process. Quality Objectives will be measurable.
- b. The **requirements** for the product. This includes the individual components and the customer order.
- c. The need for a **process**. Processes will be developed to support product realization where necessary. These processes will be documented as needed to ensure consistent product realization.
- d. The need for **resources** specific to the product. This includes the order and parts.
- e. The need for **Inspection** specific to the product. This includes the order and parts.
- f. The need for **Records**. Such as records of order processing and inspection.

7.1.1 Configuration Management

Configuration management consists of unique Part Number assigned to product by both the manufacturer and Mouser. If a part materially changes the manufacturer will sell the product to Mouser with another unique part number assigned by the manufacturer. Customer assigned part numbers are verified and assigned at time of the order for recording on documents to the customer. Customer part numbers are not part of Configuration Management.

Life-Cycle of products is also part of configuration management. See procedure [PTOP-PR-037 Part Number Entry & Update - Standard Process](#) for part number entry. See procedure [PTPD-PR-034 Lifecycle](#) for Lifecycle.

7.1.2 Control of Work Transfers

Mouser performs limited work transfers through sub-contracted suppliers. See procedure [QS-PR-022 Control of Work Transfers](#) for more information.

7.2 Customer-Related Processes

7.2.1 Determination of Requirements Related to the Product

Basic customer requirements, specific manufacturer and part number, quantity, and delivery service are selected by the customer at the time the order is requested. Post-delivery activity consists of product returns and customer-initiated Corrective Actions.

Product specific requirements such as ESD, Packaging, etc. are met through process control even when not stated by the customer.

All applicable statutory and regulatory requirements, such as hazardous material, will be met.

Mouser has an Export Management and Compliance Program modeled after the EMCP Guidelines published by the United States Commerce Department's Bureau of Industry and Security (BIS). See procedure [QS-PR-010 Export Management System and Compliance Program](#).

Any additional requirements considered necessary will be addressed at the time the order is placed by the customer. Customer requirements arising after order placement will be handled on a case-by-case basis.

7.2.2 Review of Requirements Related to the Product

Mouser receives request from customers to purchase product via two distinct processes. These are through our website and through our sales offices.

a. Website Orders - The review of customer requirements through the website is limited to customer selections on the website. Detailed information is provided through the website for the customer to make decisions on meeting their requirements and assessing their risk. If the customer has more specific requirements they will need contact a sales office directly and make their requirements available to the sales office for review and acceptance.

b. Sales Office Orders – When customer make their requirements available to Mouser through our Sales Office Mouser will review those requirements for acceptance and risks. Members of Sales will review the requirements to ensure they are defined and understood. If a requirement needs clarification or a risk is identified the customer will be contacted for guidance on processing the customer's order.

If customer has no documented requirement the member of Sales will review the requirement as the order is placed in the system and make the customer aware of any requirements which cannot be accepted by Mouser. If the customer changes the requirements this will be reviewed against the previous requirement and any document amended. These amended requirements will be communicated to relevant Mouser employees. The record of the acceptance of an order or quote with requirements is recorded by placing the quote or order on the system and executing the quote or order.

See Sales and Quote procedures for more detail on these processes.

Risk may include obsolescence, end of life, shelf life, transportation issues and others.

7.2.2.1 If the customer calls back to change the order, provisions are provided to update the Mouser Business System and if the order is in the warehouse, notify the warehouse of the change. See procedure [SASV-PR-071 Order Updates and Cancellations](#).

7.2.3 Customer Communication

- a. Mouser maintains a comprehensive website. Product specifications in electronic files are available on the website.
- b. Mouser produces print catalogs.
- c. Mouser's Business System e-mails customers when an order has shipped and when a new order does not ship on time.
- d. Customers can contact us via phone, e-mail, fax, and mail.
- e. Customers are encouraged to provide feedback to Mouser. Mouser publishes the e-mail addresses of it's Managers on Mouser's website. Customer complaints are handled through the Sales Department. See procedure [SASV-PR-002 Customer Correspondence](#).
- f. Surveys are used to measure customer satisfaction.

7.3 Design and Development

As a distributor, Mouser does not design any of the products it sells. This clause is not required.
(See exclusions listed in section 4.2.2.2)

7.4 Purchasing

7.4.1 Purchasing Process

Mouser is a distributor. Mouser purchases electronic components and supplies for resale from various suppliers. Mouser retains full control over the suppliers it represents. Mouser is responsible for the conformance of the products we sell. This includes product from sources defined by the customer. Asset Management is responsible for the management of the purchasing process.

- a. Mouser maintains a register of suppliers which includes their approval status. For suppliers that provide new products Mouser resells, the scope of approval will be for product selection and distribution according to contract with the supplier. Scope of approval for other suppliers that affect quality requirements of the QMS will be defined in [QS-PR-017 Outsourced Processes](#).
- b. Supplier performance is reviewed periodically. The results of these reviews will be used to determine the implantation of controls such as corrective action. See procedure [PTOP-PR-040 Supplier Re-evaluation](#) detail on this process for suppliers that provide new products Mouser resells. For other suppliers that affect quality requirements of the QMS see [QS-PR-017 Outsourced Processes](#).
- c. Mouser has defined the actions to be taken when a supplier fails to meet requirements. See procedure [PTOP-PR-040 Supplier Re-evaluation](#) detail on this process for suppliers that provide new products Mouser resells. For other suppliers that affect quality requirements of the QMS see [QS-PR-017 Outsourced Processes](#).
- d. Mouser will ensure where required that Mouser and all applicable suppliers use customer-approved special process sources.
- e. Mouser has defined the process, responsibilities and authority for the approval of

suppliers and any subsequent changes in their approval status. Control of the use of these suppliers is accomplished by their approval status controlling a systems based purchasing process. See procedures [PTOP-PR-046 New Supplier Approval](#) and [PTOP-PR-040 Supplier Re-evaluation](#). for details on processes that regulate suppliers providing product for resells. For other suppliers that affect quality requirements of the QMS see procedure [QS-PR-017 Outsourced Processes](#).

f. Risk with a supplier is determined and managed through above referenced procedures in section e.

g. Mouser has implemented controls to prevent the purchase of counterfeit and suspected unapproved parts in accordance with aerospace standard AS5553 Counterfeit Electronic Parts; Avoidance, Detection, Mitigation and Disposition. See procedure [QS-PR-019 Counterfeit Electronic Parts Plan](#) for more details.

7.4.2 Purchasing Information

Purchasing information describes the product to be purchased. For products Mouser resells this requires only an accurate manufacturer or supplier part number.

The following requirements are flowed down to suppliers at Mouser:

- a. requirements regarding the need for the supplier to notify Mouser of nonconforming product, obtain Mouser approval for nonconforming product disposition, notify Mouser of changes in product and/or process definition, changes of suppliers, change of manufacturing facility location and, where required, obtain Mouser approval, and flow down to the supply chain the applicable requirements including customer requirements,
- b. records retention requirements,
- c. right of access by Mouser, the customer and regulatory authorities to the applicable areas of all facilities, at any level of the supply chain, involved in the order and to all applicable records, and
- d. requirements for a certificate of conformity.

The following requirements will be addressed as needed.

- e. Requirements for Mouser approval of the product or service, procedures, processes and equipment.
- f. Requirements for qualification of personnel.
- g. Requirements for Quality Management System.
- h. Requirements for the identification and revision status of specifications, drawings, process requirements, inspection/verification instructions and other relevant technical data.
- i. Requirements for design, test, inspection, verification, use of statistical techniques for product acceptance and related instructions for acceptance by the organization.
- j. Requirements for test reports and/or airworthiness certificate.

7.4.2.1 Purchasing requirements are reviewed prior to being communicated to the supplier. See procedure [PTOP-PR-059 Product Purchasing](#).

7.4.2.2 Purchasing information on other supplies and services that affect quality requirements of the QMS will describe the supplies or services in terms familiar to the supplier. Employees purchasing these supplies and services will, as needed, document and communicate any Mouser or Customer requirements. See procedure [QS-PR-017 Outsourced Processes](#).

7.4.3 Verification of Purchased Product

Mouser performs incoming inspection on product purchased for resale. Inspection consists of verification of count, kind, documentation and condition against packing list, Mouser's Purchase Order and if needed, work instructions. Mouser is a dock-to-stock distributor. Mouser performs no testing or measurement on products for resale.

Mouser has no intentions of verifying product at the supplier's premises. See WHRV (Receiving) procedures for more details.

7.4.3.1 Product and services purchased from sub-contracted suppliers will be verified by the process owner per their local procedures. See procedure [QS-PR-017 Outsourced Processes](#) for details on these processes.

7.5 Product and Service Provision

7.5.1 Control of Production and Service Provision

Production of individual orders is planned by the entering of customer requirements into the computer system. This system along with procedures and approved equipment will control production. See Sales and Operations procedures for more detail on these processes. Additionally controlled conditions will include the following, as applicable:

- a. the availability of information that describes the characteristics of the product,
- b. the availability of procedures and work instructions, as necessary,
- c. the use of suitable equipment,
- d. the availability and use of monitoring and measuring equipment,
- e. the implementation of monitoring and measurement,
- f. the implementation of product release and delivery,
- g. accountability for all product (e.g., parts quantities, split orders, nonconforming product),
- h. evidence that all operations have been completed as planned, or as otherwise documented and authorized,
- i. provision for the prevention, detection and removal of foreign objects,
- j. monitoring and control of utilities and supplies (e.g., water, compressed air, electricity, chemical products) to the extent they affect conformity to product requirements, and
- k. criteria for workmanship, specified in the clearest practical way (e.g., written standards, representative samples, illustrations)

7.5.1.1 Evidence mentioned in section h will take the form of various soft and written records of production produced by the processes. Such as labels on product packages, pack list, WCS records and the issuing of a customer invoice.

7.5.1.2 Mouser performs no after sales service or post-delivery activities.

7.5.2 Validation of Processes for Production and Service Provision

Mouser has two processes which require validation at Mouser. They are Electro-Static Discharge (ESD) Product Handling and Moisture Sensitive Level (MSL) Product Handling. Validation of these processes is in accordance with [QS-PR-015 ESD Control Program](#) and [WHOD-PR-033 MSL Procedure](#).

7.5.3 Identification and Traceability

Mouser identifies the product throughout the product realization process. There are no requirements for monitoring and measurement.

Identification - Customer orders are identified in the system by assigning a sales order number. Parts to be included on the order have unique part numbers as described in 7.1.1 Configuration Management. This identification of configuration is maintained throughout the processing of the customer's order and in the case part number configuration management throughout the life of any record kept.

Traceability

- a. Customer orders are traceable in Mouser's Business System for retention period defined in [QS-PR-008 Record Control](#).
- b. Product at the part number level is traceable to the manufacturer and normally Lot and/or Date Code level also. Customers can require Lot and/or Date information which will be collected, stored and printed on pack list and product labels.

Product identification and traceability is maintained using bar-code labels from Receiving to the warehouse shelf. From the shelf to the customer the identification and traceability is controlled and recorded on product labels.

Acceptance authority is controlled by user ID and password on Mouser Business System. Assigned stamps are used in Receiving for acceptance of incoming products. Both are controlled by IT and Receiving procedure.

7.5.4 Customer Property

Customer Property at Mouser is limited to Personal Data under PCI Compliance.

7.5.5 Preservation of Product

Mouser preserves the conformity of products during internal processing and final delivery. This preservation includes identification, handling, packaging, storage, and protection.

- a. **Identification** - All products Mouser distributes are identified with either Mouser's part number, the manufacturer's part number, or other identifying codes. This identification is recorded at a minimum on the packaging containing the product. When product is repackaged, the package is labeled with the part number.

- b. **Handling** - Product is handled in a manner to prevent physical and electrical damage. Electro-Static Discharge (ESD) and Moisture Sensitive Level (MSL) are taken into consideration as required. Only authorized Warehouse, Products, Tech Sales and Quality employees handle product. Hazardous products are managed and handled per specific warehouse procedures.
- c. **Packaging** - Packaging is performed in accordance with written procedures. Whenever possible, material is kept in the manufacturer's original packaging. Standard packaging methods minimize shipping damage to the product while in transit to the customer facility. ESD parts are packaged in ESD protective material and labeled as such. MSL parts are packaged with MSL protection and precautions when required by customers. Packaging requirements will mitigate risk of Foreign Object Damage (FOD).
- d. **Storage** - Material is stored in individual bin locations. The storage areas are clean, neat, and temperature-controlled to the extent necessary to minimize lead contamination and ESD. The condition of products is assessed during the cycle count process. Receipt and withdrawal of inventory is controlled and maintained to assure effective storage of the inventory. All materials with a specified shelf life are controlled to assure their use within the specified period or disposal outside the specified period.
- e. **Protection** - Where necessary product is protected from ESD and with MSL precautions.
- f. **Cleaning** – Mouser sells new products that do not require cleaning.
- g. **Foreign Object Damage (FOD)** – Warehouse employees are trained to detect and remove foreign objects.
- h. **Sensitive Devices** – ESD is considered sensitive see above. When identified by the supplier additional sensitive products will be controlled as specified by the supplier.
- i. **Safety warnings** – Markings and labels to this effect are applied by the supplier and Mouser will take precautions to preserve these markings and/or labels.
- j. **Shelf-Life** – Mouser tracks shelf-life and controls available life on in-stock products.
- k. **Stock Rotation** – Mouser actively participates in supplier allowed stock rotation.
- l. **Hazardous materials** – Mouser has processes in place to handle hazardous materials and products.

7.6 Control of Monitoring and Measuring Equipment

Monitoring and Measuring Equipment is defined as Test Measurement and Diagnostic Equipment (TMDE), a device used to measure a parameter critical to a decision affecting the meeting of customer requirements. Mouser has determined when and where TMDE is needed based upon the necessary measurements to be made and the amount of accuracy required. The Director of Quality is responsible for administering the TMDE program. See procedure [QS-PR-012 TMDE Program](#) for more details.

7.6.1 Procedures describe and control the use of TMDE. Employees using TMDE will be trained to use it properly, if necessary.

7.6.2 Mouser maintains a register of TMDE.

7.6.3 TMDE is calibrated and re-calibrated at specified intervals. Calibration is performed by external calibration organizations. Calibrations will be traceable to nationally recognized measurement standards. Intervals for re-calibration will be set to ensure intolerance performance for the duration of the interval. The Director of Quality will select the calibration organization.

7.6.4 TMDE will have a calibration label. The label will identify the equipment, the date calibrated and the date due calibration. The TMDE will have a calibration certificate which will be kept on file as part of the equipment's calibration record.

7.6.5 TMDE is sealed using void if broken seals to safeguard it from adjustment which invalidate the results of the measurement.

7.6.6 TMDE is stored and used in controlled environments. Preventive maintenance other than re-calibration is performed as needed per OEM procedures.

7.6.7 Personally owned TMDE is not allowed at Mouser.

7.6.8 When TMDE is discovered to be out of tolerance the Logistics Manager will evaluate the validity of previous measurements and take appropriate actions.

7.6.9 TMDE at Mouser is not controlled by separate software.

7.6.10 Mouser maintains a TMDE Recall process. See procedure [QS-PR-012 TMDE Program](#) for more details.

8.0 Measurement, Analysis and Improvement

8.1 General

Mouser plans and implements the monitoring, measurement, analysis, and improvement processes needed to demonstrate meeting product requirements. See section 8.2.4.

8.1.1 Mouser plans and implements the monitoring, measurement, analysis, and improvement processes needed to ensure the Quality Management System meets requirements. See section 8.2.3.

8.1.2 Mouser plans and implements the monitoring, measurement, analysis, and improvement processes needed to continually improve the effectiveness of the Quality Management System. See section 8.4.

8.1.3 Quality System measurements are described procedure [QS-PR-006 Quality Measurements](#).

8.2 Monitoring and Measurement

8.2.1 Customer Satisfaction

Mouser utilizes survey results to monitor customer perceptions as to whether Mouser has met customer requirements; and survey and reports to measure customer satisfaction. The evaluation of customer satisfaction will include order accuracy, defective product rates, on-time delivery performance, customer complaints and corrective action requests. Results are reviewed in Management Review. See [QS-PR-006 Quality Measurements](#) for more detail.

8.2.2 Internal Audit

Mouser has implemented and maintains an Internal Audit Program. The responsibilities and requirements for planning and conducting audits and for reporting results and maintaining records are defined in procedure [QS-PR-005 Audit Procedure](#).

8.2.2.1 The objective of the Internal Audit program is to ensure the Quality Management System:

- conforms to the planned arrangements described in procedures and plans
- conforms to SAE AS9120A/ISO 9001:2008
- conforms to the Quality Management System requirements set by Mouser - See section 4.0
- is implemented and effective
- is maintained

8.2.2.2 Internal audits are conducted at planned intervals according to the Internal Audit Schedule or according to customer contractual requirements. Audits are planned based on the status and importance of the process and area to be audited, as well as previous audit results. The audit criteria, scope, frequency, and methods will be defined.

8.2.2.3 Internal auditors are trained and qualified. Internal auditors will be selected by the Director of Quality. The selection of auditors and conducting of audits will ensure objectivity and impartiality of the audit process. Auditors will not audit their own work.

8.2.2.4 Findings found during Internal Audits will have a formal Corrective Action requested. Findings are defined as: A group of non-conformities which indicate a breakdown in a process, function, or element of a standard. The Director of Quality will decide when a Corrective Action is appropriate. Follow-up will be in accordance with the [QS-PR-002 Corrective Action Program](#).

8.2.2.5 When processes require self-audits the process owner will plan and conduct these audits according to their process procedures. Records of these audits will be kept.

8.2.3 Monitoring and Measurement of Processes

Mouser monitors or measures key processes which indicate the effectiveness of the Quality Management System. Key processes include Corrective/Preventives Action Metrics, Internal Audit Metrics and Supplier Performance Metrics. Appropriate corrective action will be taken when planned results are not achieved.

In the event of process nonconformity, Mouser will:

- a. take appropriate action to correct the nonconforming process,
- b. evaluate whether the process nonconformity has resulted in product nonconformity,
- c. determine if the process nonconformity is limited to a specific case or whether it could have affected other processes or products, and
- d. identify and control any nonconforming product.

8.2.4 Monitoring and Measurement of Product

Mouser is an authorized distributor, products as parts are purchased through an authorized supply chain and therefore Mouser does not need to make actual specification specific

measurements on the products. These products are monitored for count, kind and condition throughout the product realization processes.

8.2.5 Evidence of Conformity

Mouser is a manufacturer authorized distributor. Evidence of conformity is kept on file and available to the customer when requested. Mouser's pack list also contains a certification affirming this conformity which should meet customer requirements when purchasing from an authorized distributor.

When orders are split, such as backorder, each shipment is considered a separate invoiced order with separate pack list. Backordered products are indicated on the pack list.

8.3 Control of Nonconforming Product

Mouser has a number of processes for the identification and control of nonconforming products. They are summarized in procedure [QS-PR-007 Nonconforming Product Control](#). Procedure QS-PR-007 defines the controls and responsibilities for dealing with nonconforming product. Nonconforming product is defined as:

- a. orders which do not meet customer requirements,
- b. parts and components not meeting the requirements of Mouser's Purchase Order,
- c. parts and components returned from the customer, and
- d. parts and components incorrectly stocked discovered during inventory activities.

8.3.1 Nonconforming product procedure will define the responsibility and authority for the review and disposition of nonconforming product, and the process for approving personnel making these decisions. The procedure will also describe the corrective action required and how the nonconformity will be recorded. The record will include a description of the nonconformity, any actions taken, and if needed, any concessions obtained. Nonconformity records will be maintained in accordance with the nonconformity procedure and procedure [QS-PR-008 Record Control](#). The nonconformity procedure will also address re-verification and containment, if necessary.

8.3.2 When nonconforming product is discovered by the customer, a Service Order is opened by Sales. The customer is issued an RMA. If the customer wishes replacements, a Correction Order is issued to correct the order. When the defective product is returned the error is recorded in the SDR (Supplier Discrepancy Report) System. Product Management will review the defective products and if necessary send the product to the supplier for evaluation. If the supplier indicates the product is defective, the inventory is pulled. Customers who have purchased this product will be notified by Sales, as needed.

8.3.3 When nonconforming product is identified by the supplier, the Product Recall process will be initiated per procedure by Products. Customers will be notified. See procedure [PTOP-PR-011 Product Recall](#) for details.

8.3.4 Product dispositioned for scrap is positively controlled until it can be sent to a recycler and rendered unusable.

8.4 Analysis of Data

Mouser determines, collects, and analyzes data to demonstrate the continuing suitability and effectiveness of Mouser's Quality Management System. Analysis is performed on measurements previously discussed in this Quality Manual and developed within the Quality Management System. A comprehensive list of these measurements is maintained by the Management Representative. These measurements are also reviewed in Management Review. See procedure [QS-PR-006 Quality Measurement](#) for details.

8.5 Improvement

8.5.1 Continual Improvement

Mouser continually improves the effectiveness of the Quality Management System by using the Quality Policy, Quality Objectives, Audit Results, Management Review, Corrective and Preventive Actions, and any other appropriate analysis of data. Mouser will seek out improvement opportunities. See procedure [QS-PR-014 Process Improvement and Control Procedure](#) for details.

8.5.2 Corrective Actions

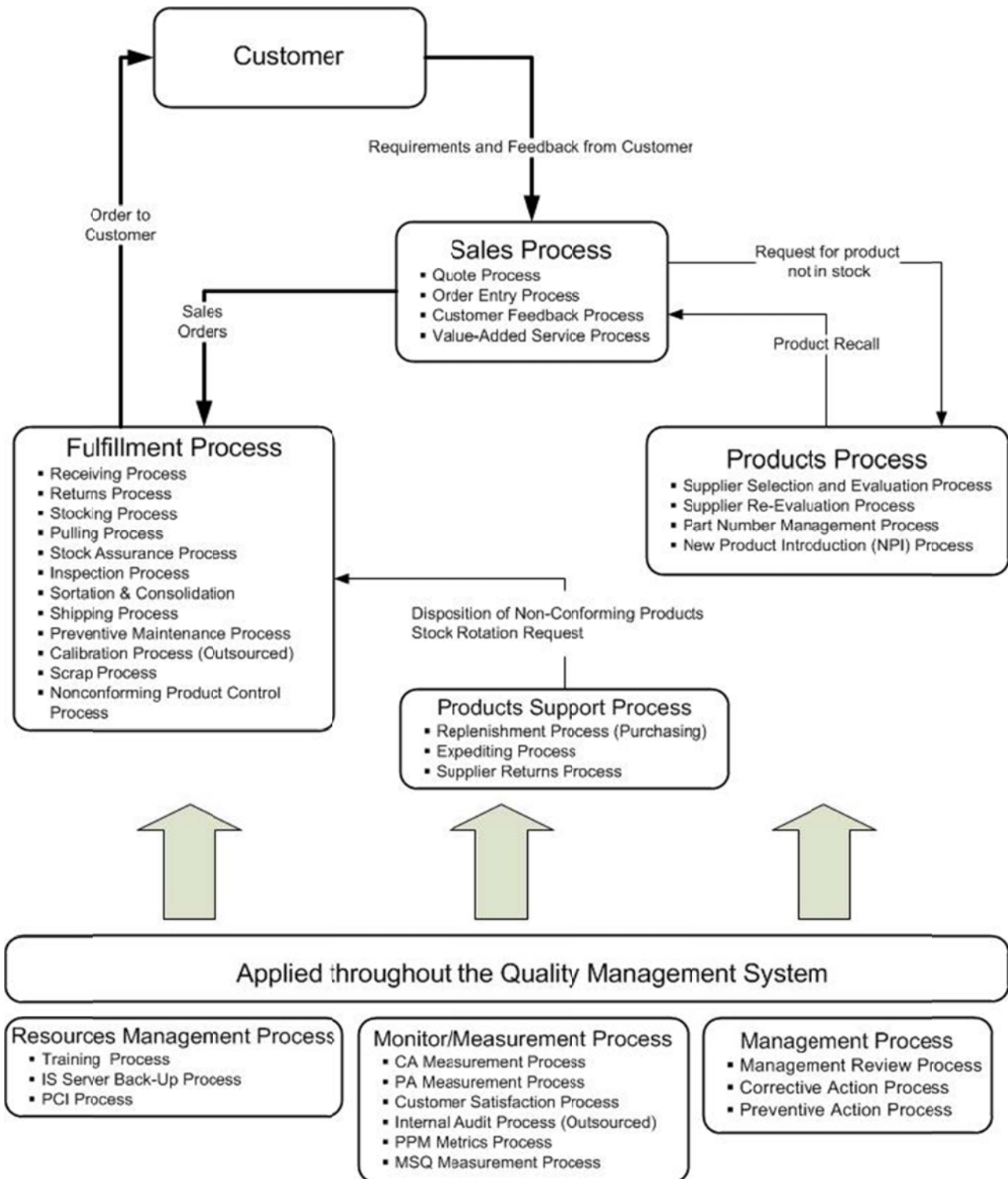
Mouser maintains a comprehensive Corrective Action Program for the Quality Management System. See [QS-PR-002 Corrective Action Program](#) for details of the Corrective Action Program.

8.5.3 Preventive Action

The Preventive Action program is designed to detect, analyze, and eliminate causes of potential nonconformities. All steps of the Preventative Action will be recorded and all Preventative Action plans will have their effectiveness evaluated in accordance with procedure [QS-PR-003 Preventive Action Program](#).

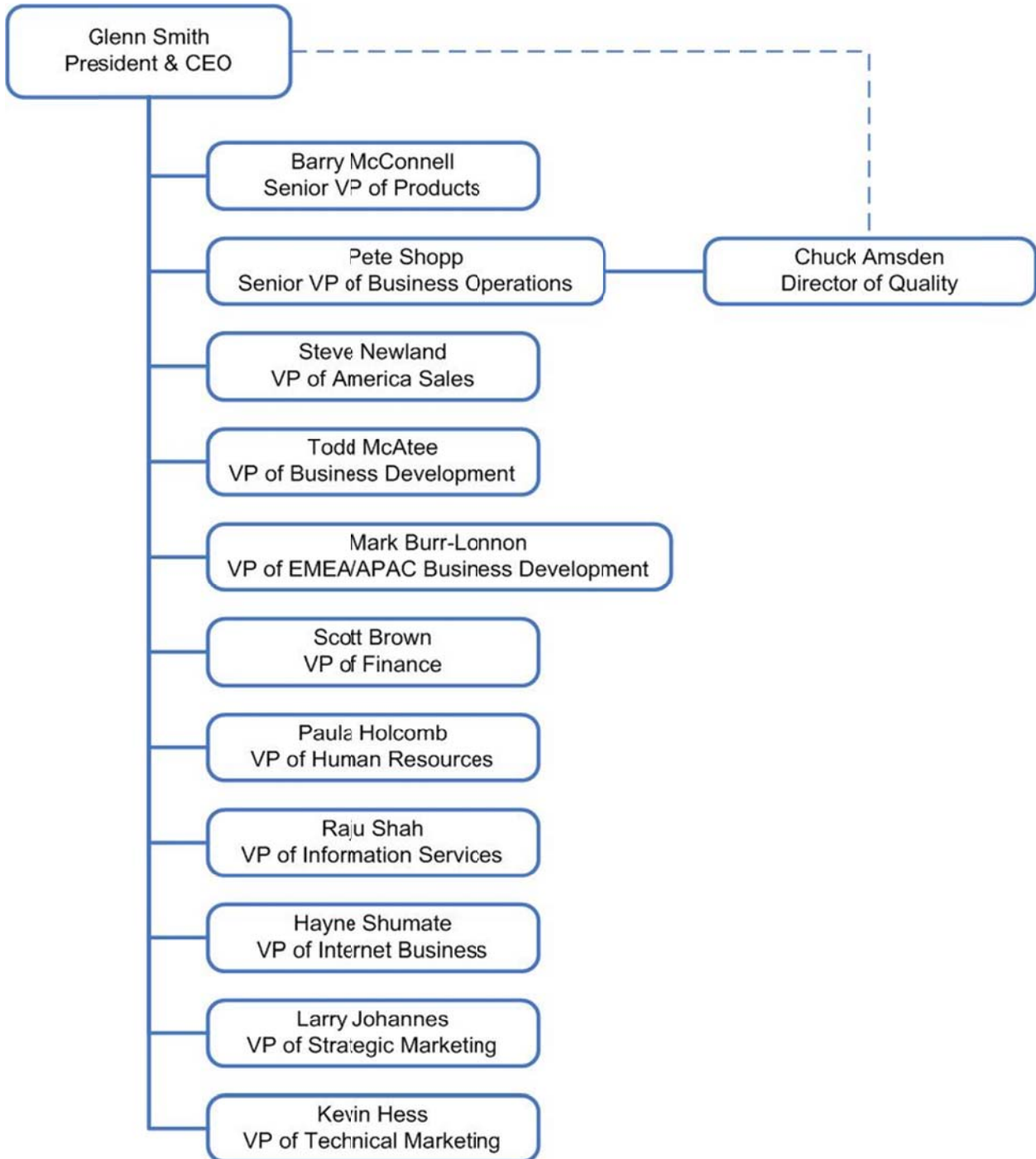
Appendix A: Process Map

Process Map of the processes of the QMS with their sequence and interaction.



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Appendix B: Organizational Chart



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Appendix C: Quality Manual Revision History

Date	Rev	Description	Approved by:
3/15/04	-	Original	Glenn Smith Chuck Amsden
5/30/04	A	Changes to 1.0 para 2. Added Appendix A. Added when required to 4.1.2, Added procedure ref. 4.2.1d. Added resourcing to 5.1. Revised Quality Objective to "High", 5.4.1, changed frequency of management review, 5.6.1. Total revision of 7.1. Included Mail and email to 7.2.2. Define responsibility, 7.4.1. Added 7.4.2.2. Revised 7.5.3. Added 8.1.3 on Quality Measurement procedure. Expanded 8.2.2.1. Added audit criteria, scope, freq. and methods to 8.2.2.2. Revised 8.2.2.4. Added goals to 8.2.3. Added 2 nd sentence to 8.2.4. Added procedure ref. to 8.5.3. Revised Appendix B to be Product Realization flow	Glenn Smith Chuck Amsden
7/12/04	B	Deleted exclusion for 7.5.2. Revised Appendix A and B for accuracy. Revised to WCS, deleted pick list.	Glenn Smith Chuck Amsden
8/10/04	C	Deleted ref. to appendix A in 4.1 a and b. Removed "general" from last sentence of section 4.2.2. Changed Ref on Appendix. Corrected number error, section 4.2.2.2. Revised Quality Policy, section 5.3. Added records to 7.1. Revised 8.3 to reference single procedure. Added reference to Product Recall process, section 8.3.3. Deleted appendix B. Revised appendix A.	Glenn Smith Chuck Amsden
8/18/04	D	Revised Appendix A to Process Map.	Glenn Smith Chuck Amsden
9/14/04	E	Revised 7.4.1b to remove approved supplier list.	Glenn Smith Chuck Amsden
10/15/04	F	Added detail on out sourcing, section 4.1.2. Added procedure references throughout manual. Removed all ref. to work instructions. Added Org Chart, 4.2.2. Updated Scope of Quality System, 4.2.2.1. Added Mkt&Bis Devlp Dept Head to Quality Council and updated title on two, 5.1. Added 7.6.7 and 7.6.8 on Calibration. Revised 8.2.2.3 to clarify.	Glenn Smith President Chuck Amsden Quality Manager

Appendix C: Quality Manual Revision History (continued)

Date	Rev	Description	Approved by:
11/15/05	G	Revised section 8.3.2 to better align with standard. Revised Org Chart, appendix B, to add Tim Sanghera as Vice President of Marketing Sales.	Glenn Smith President Chuck Amsden Quality Manager
3/21/07	H	Updated Introduction, section 2.0. Revised Mission Statement, section 3.0. Designated Warehouse Manager to review out of tolerance TMDE, Section 7.6.7. Changed Quality Assurance to Returns in Receiving on the Process Map, Appendix A. Added IT Department Head to Organizational Chart Appendix B.	Glenn Smith President Chuck Amsden Quality Manager
9/14/07	J	Updated page numbers for Appendix B and Appendix C in Table of Contents. Changed Position Qualifications to Job Qualifications, section 6.2.2. Changed Warehouse Manager to Logistics Manager, section 7.6.7. Changed Quality Manager to Director of Quality throughout.	Glenn Smith President Chuck Amsden Director of Quality
8/25/08	K	Updated titles on Quality Council, 5.1. Updated title of Export system, 7.2.1. Updated 7.2.3. a for U.S. catalog x4/yr. Updated 7.2.3.e to include managers on website. Deleted procedure reference (last sentence) 7.5.5.d. Updated Appendix B: Organizational Chart.	Glenn Smith President Chuck Amsden Director of Quality
9/25/09	L	Revised to ISO 9001:2008 throughout. Revised Quality Policy and Objectives. Removed exclusion for Customer Property. Updated 7.5.5.c and .d to include MSL. Changed "Void If Broken" to void if broken, section 7.6.4. Changed potential causes of non-conformities to causes of potential non-conformities.	Glenn Smith President Chuck Amsden Director of Quality
1/26/11	M	Revised to AS9120A	Glenn Smith President & CEO Chuck Amsden Director of Quality