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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 Vice President 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, and Glenn Smith is President and CEO.

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.

In 2015, Mouser continued to grow with additional global customer service locations and an expansion that brought total warehouse space to 610,000ft².

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, and then transitioned to global production quantities at TTI. This complete solution is unique in the electronics distribution industry.
3.0 Terms and Definitions

3.1 Counterfeit Part: An unauthorized copy, imitation, substitute, or modified part (e.g., material, part, component), which is knowingly misrepresented as a specified genuine part of an original or authorized manufacturer.

3.2 Critical Items: Those items (e.g., functions, parts, software, characteristics, processes) having significant effect on the provision and use of the products and services; including safety, performance, form, fit, function, producibility, service life, etc.; that require specific actions to ensure they are adequately managed. Examples of critical items include safety critical items, fracture critical items, mission critical items, key characteristics, etc.

3.3 Documented Information: Information required to be controlled and maintained by Mouser and the medium on which it is contained.

3.4 External Provider: External Supplier, provider that is not part of Mouser.

3.5 Human Factor: Characteristic of a person having an impact on an object under consideration. Characteristics can be physical, cognitive or social.

3.6 Interested Party: Stakeholder, person or organization that can affect, be affected by, or perceive itself to be affected by a decision or activity.

3.7 Key Characteristic: An attribute or feature whose variation has a significant effect on product fit, form, function, performance, service life, or producibility, that requires specific actions for the purposes of controlling variation.

3.8 Objective Evidence: Data supporting the existence or verity of something.

3.9 Product Safety: The state in which a product is able to perform to its designed or intended purpose without causing unacceptable risk of harm to persons or damage to property.

3.10 Quality Planning: Part of Quality Management focused on setting quality objectives and specifying necessary operational processes, and related resources to achieve the quality objectives.

3.11 Regulatory Requirement: Obligatory requirement specified by an authority mandated by a legislative body.


3.13 Special Requirements: Those requirements identified by the customer, or determined by Mouser, which have high risks of not being met, thus requiring their inclusion in the operational risk management process. Factors used in the determination of special requirements include product or process complexity, past experience, and product or process maturity. Examples of special requirements include performance requirements imposed by the customer that are at the limit of the industry’s capability, or requirements determined by Mouser to be at the limit of its technical or process capabilities.

3.13 Statutory Requirements: Obligatory requirement specified by a legislative body.
4.0 Context of Mouser Electronics

4.1 Mouser and Its Context
Mouser has determined the external and internal issues that are relevant to its purpose and its strategic direction and that affect its ability to achieve the intended results of its Quality Management System. Mouser monitors and reviews information about these external and internal issues. See procedure QS-PR-001 Management Review for details.

4.2 Understanding the Needs and Expectations of Interested Parties
Mouser has determined the interested parties and their requirements that are relevant to the QMS. Mouser monitors and reviews information about these interested parties and their relevant requirements. Mouser has established and maintains documented information on interested parties. See procedure QS-PR-001 Management Review for details.

4.3 Scope of the Quality Management System
Mouser is a global Authorized Distributor of Semiconductors, Electronic Components, Supplies and Equipment. Our full offering is viewable on our website.

Mouser distributes Commercial off the Shelf Parts and Military Parts qualified under QPL and QML programs. Mouser also distributes Defense Articles under ITAR.

Mouser does not design or manufacturer any of the Semiconductors, Electronic Components, Supplies and Equipment it distributes therefore section 8.3 Design and Development of Products and Services, section 8.4.3 (g.) design and development control and sections 8.5.5 (f.) collection and analysis of in-service data and (g.) control, updating, and provisions of technical documentation relating to product use, maintenance, repair, and overhaul are not applicable to the scope of Mouser’s Quality Management System. As an Authorized Distributor, Mouser performs no work off-site, therefore section 8.5.5 (h) is not applicable to the scope of Mouser’s Quality Management System.

Mouser purchases parts for distribution from over 600 manufactures and a few authorized distributors.

Mouser has many individual Sales Offices around the world. These offices serve as local support for different countries and languages. These Sales Offices use the same computer systems as the Headquarters and Warehouse in Texas. Registration of the QMS is limited to the Headquarters, Warehouse and Sales Offices located at the following campus location:

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

Mouser distributes to greater than one hundred thousand customers in multiple countries and in a broad swath of industries. From space programs to makers and hobbyist. Customer requirements are reviewed and agreed on between Mouser and the Customer.

Mouser’s QMS is implemented to perform authorized distribution which can be limited by Distribution Agreements with Manufacturers.
4.4 Quality Management Systems and its processes

4.4.1 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 AS9100D/ISO 9001:2015 and other standards.

a. The processes needed to operate the Quality Management System have been determined and documented. Inputs and outputs of key processes are documented in the Turtle Diagrams.

b. The sequence and interactions of these processes has been determined. See appendix A for an overview. See QMS turtle diagrams and procedures for more detail.

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. Responsibilities and authorities have been assigned for the QMS processes. Documented in this manual, the procedures, FMEA, Turtle Diagrams and job descriptions.

f. Risks and Opportunities are addressed in all planning for the QMS. See section 6.1.

g. Mouser monitors, measures where applicable, and analyzes these processes.

h. Based on these measurements and controls, Mouser will evaluate the results and implement actions necessary to achieve intended results and continual improvement of these processes.

i. And improve the processes and QMS through audits, corrective actions and process improvement initiatives.

4.4.2 These processes will be managed by Mouser in accordance with SAE AS9100D/ISO 9001:2015 and other standards. A description of the processes needed for the QMS, their application, sequence and interaction is documented in appendix A, the Turtle Diagrams and procedures.

4.4.3 Records and information will be retained to support the operation of the QMS and ensure the QMS is being executed as planned.

4.4.4 The Quality Management System will address customer and applicable statutory and regulatory requirements.
5.0 Leadership

5.1 Leadership and Commitment

5.1.1 Leadership in General
Senior Management is committed to developing, 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
- Vice President of Quality (Management Representative)
- Business Operations Department Head
- America Sales Department Head
- Products Department Head
- Internet Business Department Head
- Technical Marketing Department Head

a) The Quality Council has full accountability for the effectiveness of the Quality Management System.

b) The council also has established the Quality Policy and upper level Quality Objectives which are compatible with the context and strategic direction of Mouser. See sections 5.2 and 6.2.

c) The council has prescribed that the Quality Management System will be fully integrated with all Mouser business operations.

d) The council has promoted through this manual, policies and procedures that employees will employ a process control process and risk-based analysis when conducting business.

e) Senior Management ensures the proper level of resources as part of process control.

f) Senior Management ensures all employees understand the importance of effective quality management and of conforming to the Quality Management System requirements.

g) The council and the rest of management ensure the Quality Management System meets the goals set for objectives. This is accomplished through daily, weekly and monthly review of quality measurements.

h) Senior Management engages, directs and supports employees to contribute to the effectiveness of the Quality Management System;

i) Senior Management promotes continual improvements through the establishment of this Quality Management System;

j) Senior Management supports all Mouser managers with leadership as it applies to their areas of responsibility.
5.1.2 Customer Focus
Senior Management demonstrates leadership and commitment on customer focus by ensuring:

a) customer and applicable statutory and regulatory requirements are determined, understood and consistently met;

b) the risks and opportunities that can affect conformity of products and the ability to enhance customer satisfaction are determined and addressed;

c) the focus on enhancing customer satisfaction is maintained.

d) product and service conformity and on-time delivery performance is measured and corrective action is taken is objective are not achieved.

5.2 Policy
5.2.1 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.

5.2.2 Communicating the Quality Policy
Mouser’s quality policy is published in this Quality Manual. This Quality Policy is also posted on Mouser’s Intranet and posted for employees. The Quality Policy is understood by employees and applied throughout Mouser processes. The Quality Manual with this Quality Policy is also published on Mouser’s website for customer and relevant interested parties.

5.3 Roles, Responsibilities and Authorities
Senior Management has established the responsibilities and authorities for management positions. Managers and Human Resources have established the responsibilities and authorities for sub-managers and employees. These responsibilities and authorities are communicated and understood though the Job Descriptions, Procedures and this manual.

a) The Quality Council is responsible and authority for ensuring the Quality Management System conforms to the requirements of ISO9001/AS9100 per this manual and QS-PR-001 Management Review;

b) The Management Team is responsible and has the authority for ensuring that the processes are delivering their intended outputs;

c) The Quality Team is responsible and has the authority for reporting on the performance of the Quality Management System;

d) The Management Team, including the Quality Council are responsible and has the authority for seeking out opportunities for improvement;
d) The Service Excellence Team is responsible and has the authority for ensuring the promotion of customer focus throughout Mouser;

e) The Management Team is responsible and has the authority for ensuring that the integrity of the Quality Management System is maintained when changes to the Quality Management System are planned and implemented. See QS-PR-014 Process Control for details.

5.3.1 Management Representative
The President has appointed the Vice President of Quality as Management Representative for Mouser. The Management Representative has the responsibility and authority for oversight of the requirements of Quality Management System. The Management Representative has the organizational freedom and unrestricted access to senior management to resolve quality management issues.

6.0 Planning

6.1 Actions to Address Risks and Opportunities

6.1.1 When the QMS was initially planned many of the internal and external issues were present and considered when the QMS was planned and implemented. In addition to the issues, many of the same interested parties we have today were present in the initial planning of the QMS. Risks and opportunities were considered and where appropriate planned for in the QMS.

As the QMS has grown and matured, issues and interested parties has also grown. QMS planning was always structured around accessing risks and opportunities.

With this new standard, issues and interested parties are better documented and monitored.

Planning for new processes and changes to existing processes of the QMS, will consider the issues and the shareholders, and their risks and opportunities.

Planning will include:

a) give assurance that the Quality Management System can achieve its intended result(s);

b) enhance desirable effects;

c) prevent, or reduce, undesired effects;

d) achieve improvement.

6.1.2 On existing QMS processes, process owners have taken actions to consider and address issues and the shareholders, and their risks and opportunities. This is documented in the processes FMEA. As new issues or shareholders are identified Mouser will plan how to:

a) integrate and implement the actions into its Quality Management System processes (see 4.4);

b) evaluate the effectiveness of these actions.

Actions taken to address risks and opportunities shall be proportionate to the potential impact on the conformity of products and services.

6.2 Quality Objectives and Planning to Achieve Them

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 are reviewed during Management Review and updated as necessary. Quality objectives will be measureable.

- Total Customer Satisfaction
- Customer Service Excellence
- On-Time Delivery
- Order Accuracy
- Continual Improvement of Services and Processes

6.3 Planning of Changes

Requirements for planning quality objectives and process changes are documented in QS-PR-014 Process Control.

7.0 Support

7.1 Resources

7.1.1 General

Mouser has determined and provides the resources needed for the establishment, implementation, maintenance and continual improvement of the Quality Management System. Mouser's management is responsible for identifying and procuring the resources needed to fulfill the requirements of Mouser's Quality Management System.

Management considers:

a) the capabilities of, and constraints on, existing internal resources;

b) what needs to be obtained from external providers.

7.1.2 People

Mouser determines and provides the employees necessary for the effective implementation of its Quality Management System and for the operation and control of its processes.

7.1.3 Infrastructure

Mouser management determines, provides, and maintains the infrastructure necessary for the operation of our processes and achieve conformity of products and services. Infrastructure needs are evaluated and planned during process improvements. Infrastructure needs are also identified in Corrective Actions.
7.1.4 Environment for the Operation of Processes

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

7.1.5 Monitor and Measuring Resources

7.1.5.1 General

Management determines and supplies the resources needed to ensure valid and reliable results when monitoring or measuring is used to verify the conformity of services to requirements.

Mouser ensures that the resources provided:

a) are suitable for the specific type of monitoring and measurement activities being undertaken;

b) are maintained to ensure their continuing fitness for their purpose.

Mouser retains appropriate records as evidence of fitness for purpose of the monitoring and measurement resources.

7.1.5.2 Measurement Traceability

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 Vice President of Quality is responsible for administrating the TMDE program. See procedure QS-PR-012 TMDE Program for more details.

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

b. Mouser maintains a register of TMDE.

c. TMDE is calibrated and re-calibrated at specified intervals. Calibration is performed both by external calibration organizations and in-house personnel identified to perform specific calibrations. Calibrations will be traceable to nationally recognized measurement standards. Intervals for calibration will be set to ensure intolerance performance for the duration of the interval. The Vice President of Quality will select the calibration organization.

d. 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.

e. TMDE that is adjustable may be sealed using void if broken seals to safeguard it from adjustment which invalidate the results of the measurement.

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

g. Personally owned TMDE to perform work effecting quality is not allowed at Mouser.

h. When TMDE is discovered to be out of tolerance the Vice President of Quality will evaluate the validity of previous measurements and take appropriate actions.

i. TMDE at Mouser is not controlled by separate software.
j. Mouser maintains a TMDE Recall process. See procedure QS-PR-012 TMDE Program for more details.

7.1.6 Organizational knowledge

Mouser has determined the organizational knowledge necessary for the operation of its processes and to achieve conformity of products and services. This knowledge is normally documented in procedures and is available as needed by employees.

When addressing changing needs and trends, Mouser will consider its current knowledge and determine how to acquire or access any necessary additional knowledge and required updates.

7.2 Competence

a. Managers and Human Resources determine the required competence for each position. Competence is defined as having the appropriate education, training, and experience for a position. Education, skills and experience for each position is documented in the corresponding Job Description. Training requirements are defined for each position in departmental training requirement procedures.

b. Mouser identifies training requirements during initial hiring and employee performance reviews using education, training, skills, and experience listed in the Job Description and departmental training procedures.

c. Training is evaluated for effectiveness through departmental training procedures, employee performance reviews and Corrective Action follow-up.

d. Mouser maintains Training Records on each active employee. These records will contain objective evidence of an individual's education and training. See procedure QS-PR-020 Training Program.

7.3 Awareness

Mouser employees are made aware of the relevance and importance of their work performance and how this supports Mousers' Quality Objectives and the Quality Policy. Employee bonuses are tied to Quality Metrics.

Mouser employees are made aware of the problems created when not following procedures and policies.

Managers of processes will make relevant employees aware of process changes, including changes in procedures and programs.

Employees are aware, their contribution to order fulfillment determines customer satisfaction and the success of our business. Following department procedures and employee participation in continually improving our processes, contributes to achieving our Quality Objectives and goals.

ESD, MSL and hazardous material training makes employees aware of their contribution to product and personal safety.

All Mouser employees fall under the umbrella of Berkshire Hathaway code of conduct and ethical behavior.
7.4 Communication
Mouser has determined the internal and external communications relevant to the Quality Management System, including:

a) what it will communicate;
b) when to communicate;
c) who to communicate;
d) how to communicate;
e) who will communicate.

7.5 Documentation Requirements

7.5.1 General
Mouser's has the documented information required by SAE AS9100D/ISO 9001:2015 and for the Quality Management System.

7.5.2 Creating and Updating
When creating and updating documents for the Quality Management System, requirements for identification, format, review and approval for suitability and adequacy are documented in QS-PR-004 Document Control Program.

7.5.3 Control of Documented Information

7.5.3.1 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.

Records required by the Quality Management System and AS9100D are controlled to ensure availability and suitability. Records required by processes are listed within local procedures. Records are maintained per Quality Records in QS-PR-008 Record Control, and are adequately protected by the record keeper listed within the Quality Records storage requirements.

7.5.3.2 Procedures posted on SharePoint for employees to access and can only be modified by assigned Document Control Coordinators and the Process Owners that have privileges to make changes. Revision History can be found in section 5.0 of procedures. Revision control is specified in QS-PR-004 Document Control Program.

Obsolete Documents will be marked with "Uncontrolled Copy" or "For Reference Only" when kept for any reason per QS-PR-004 Document Control Program.

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 (suitable to preserve legibility), protection, retrieval, back-up, retention, and disposition.

Procedure QS-PR-008 Record Control defines the method for controlling records that are created by and/or retained from suppliers.

Documents of External Origin are addressed in procedure QS-PR-009 External Document Control.
Documented information within Mouser’s enterprise business systems, such as UV and WCS is accessible through password access. Users are granted access to specific applications appropriate to their job functions. Product and customer requirements, and evidence of conformity to requirements, can be found within these systems.

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.

7.5.4 Quality Manual
Mouser has established and maintains this Quality Manual. The Quality Manual is approved by the President of Mouser and the Vice President of Quality. This manual includes a scope and exclusions as defined in Section 4.3. 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.

a. Mouser has defined and documented a Quality Policy and Quality Objectives. See sections 5.2.1 and 6.2.

b. Mouser has documented, implemented, and maintained the procedures and records required by SAE AS9100D/ISO 9001:2015 and other standards, and procedures and records needed for the effective planning, operation, and control of processes.


d. Mouser employees have access to, and are aware of, relevant Quality Management System documentation and changes.

8.0 Operation

8.1 Operational Planning and Control
Mouser plans, implements and controls the processes required to meet the requirements for providing services and protecting products as planned.

a. Mouser has determined the requirements for the products and services in the planning. Additionally Managers that own processes will evaluate the following for possible requirements;

   1. personal and product safety;
   2. prevention, detection, and removal of foreign objects;
   3. handling, packaging, and preservation;

b. Managers that own processes will establish criteria for:

   1. the processes;
   2. the acceptance of products and services;

c. Managers that own processes will determine the resources needed to achieve conformity of the product and service requirements and to meet on-time delivery services;
d. Managers that own processes will implement control of the processes in accordance with the criteria,

e. Managers that own processes will determine, maintain, and retain documented information as necessary:
   1. to have confidence that the processes have been carried out as planned;
   2. to demonstrate the conformity of products and services to their requirements;

f. Managers that own processes will determine the processes and resources to support the use and maintenance of the products and services.

g. Managers that own processes will engage with representatives of the affected function, for operational planning and control.

h. Managers that own processes will determine the products and services to be obtained from external providers;

i. Managers that own processes will establish the controls needed to prevent the delivery of nonconforming products and services to the customer.

j. The output of this planning shall be suitable for the process owner’s operations.

k. When further planning is needed, such as a corrective or preventive action, or process improvements including when unintended changes occur, managers will follow the requirements of \textit{QS-PR-014 Process Control Procedure} and \textit{QS-PR-028 Risk Management} to mitigate the risks of any adverse effects as necessary.

Mouser uses FMEAs to address risk and actions taken when a new or existing quality requirement is above the acceptable RPN.

I. Process Owners are responsible for ensuring control over Processes, as per \textit{QS-PR-014 Process Control Procedure}.

m. Outsourced vendors are approved by the Vice President of Quality and are listed in \textit{QS-PR-017 Outsourced Processes}. Only the outsourced vendors listed within QS-PR-017 are approved for use.

n. The Products Team will communicate part number lifecycle and discontinuation information per \textit{PTOP-PR-035}.

\section*{8.1.1 Operational Risk Management}

Mouser has planned, implemented and controls, processes for managing operational risk, to the achievement of applicable requirements that includes as appropriate to Mouser and the product and services.

   a. assignment of responsibilities for operational risk management,
   b. definition of risk criteria,
   c. identification, assessment and communication of risks throughout operations,
   d. identification, implementation and management of actions to mitigate risks that exceed the defined risk acceptance criteria, and
   e. acceptance of risks remaining after implementation of mitigating actions.
See procedure QS-PR-028 Risk Management for more information on Risk Management and the use of FMEA (Failure Mode and Effects Analysis).

8.1.2 Configuration Management
Configuration management consists mostly of unique Part Numbers assigned to parts by both the manufacturer and Mouser. If a part materially changes the manufacturer will sell the part 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.

The assembly of component kits are subject to Configuration Management. See procedure QS-PR-027 Configuration Management.

Life-Cycle of products is also part of configuration management. See procedure PTOP-PR-037 Part Number Entry for part number entry. See procedure PTOP-PR-035 Part Number Lifecycle and Discontinuation for Lifecycle.

8.1.3 Product Safety
Mouser as a distributor of parts is limited to passing information on part safety that manufacturers provide to Mouser. This is normally Product Change Notices and Product Recalls. Mouser also complies with all regulations on hazardous materials.

ESD and MSL training, teaches employees specific storage, handling and packaging requirements for electrostatic discharge sensitive and moisture sensitive products. ESD and MSL training lowers the risk of a product not meeting its intended use, due to improper storage, handling and packaging.

Employees are aware of the importance of personal and product safety by following hazardous materials procedures, for handling, packaging, labeling and shipping requirements. Safety data sheets are included in hazardous material shipments. See procedure WHSH-PR-013 Hazardous Material Domestic Shipments. Employees have unrestricted access to Safety Data Sheets (SDS) through MSDS Online, see WHSF-PR-012 for directions on using MSDS Online.

8.1.4 Prevention of Counterfeit Parts
Mouser is a manufacturer authorized distributor for all of the parts Mouser delivers to customers. Our counterfeit mitigation plan, QS-PR-024 is compliant with AS6496.

8.2 Requirements for products and services

8.2.1 Customer Communication
a. Mouser maintains a comprehensive website. Applicable product specifications in electronic files are available on the website.

b. An online catalog and catalog download options are provided to the public on the Mouser website.

c. Mouser's Business System e-mails customers when an order is confirmed, an order has shipped and when a new order does not ship on time. Order Update Confirmation email, an Order Cancellation email, and we have automated backorder notification emails that
advise a customer if their delivery date is going to change based on information from the supplier.
d. Customers can contact us via phone, e-mail, chat, fax, and mail.
f. Customer orders updates and cancellations handled per SASV-PR-071 Orders - Updates and Cancellations.
g. Customers are encouraged to provide feedback to Mouser regarding products and services. Customer complaints are handled through the Sales Department. See procedure SASV-PR-002 Customer Communication.
h. Surveys are used to measure customer satisfaction.
i. Product and Service Recalls after orders have shipped, per PTAM-PR-015 Product Recall and QS-PR-011 Product Recall in Quality.
j. Product Change Notification (PCN) for material, lifecycle, part number and specification/datasheet changes per PTOP-PR-125 PCNs (Product Change Notifications) - Products, when supplied by Manufacturer.
k. Customer supplied account information though PCI compliance. Otherwise Mouser does not accept or use customer owned physical property. See 8.5.3 for more detail.
l. Quality System information, Mouser History, Leadership and other company facts are posted on the Mouser website.
m. EDI

8.2.2 Determination of Requirements for Products or Services
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 warranty claims, product returns and customer-initiated Corrective Actions.

All applicable statutory and regulatory requirements, such as hazardous material, have been determined and met.


Any additional requirements considered necessary, including special requirements and operational risks such as but not limited to, short delivery timeframe, ability and capacity to provide, and new technology, will be determined and 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.

8.2.3 Review of Requirements for Products and Services

8.2.3.1 Product Management reviews the applicable statutory and regulatory requirements during their process to introduce products to the inventory.

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 to contact a sales office directly and make their requirements available to the sales office for review and acceptance.

**b. Customer Service Orders** – When customers make their requirements available to Mouser though 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.

c. If customer has no documented requirement the member of Customer Service 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 from those previously expressed, 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.

d. If upon review the Mouser determines that some customer requirements cannot be met or can only partially be met, Customer Service will negotiate a mutually acceptable requirement with the customer.

e. Special requirements of the product are normally pre-determined by Product Management and the Warehouse. The special requirements are either coded into systems or documented in work instructions.

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

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

**8.2.3.2** Order review and entry records are Quality Records that are maintained in the Mouser Business System (UV) a minimum of 7 years. Additional Sales department contract review information may be available within the Corporate Account Order Search or the Order Search Fax and Email links posted on SharePoint.

By entering the order in UV and not putting it on Order Entry Hold, Mouser is signifying we can meet the requirements of the customer, including new customer requirements, and that the order has been reviewed and approved.

**8.2.4** 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.

**8.3 Design and Development**

As a distributor, Mouser does not design any of the products it sells. Mouser excludes Design and Development, it is not applicable to Mouser’s scope of business in section 4.3.
8.4 Control of Externally Provided Processes, Products, and Services

8.4.1 General

Mouser is an Authorized Distributor for the products distributed. Mouser purchases semiconductors, electronic components, supplies, and equipment for resale from manufacturers or their authorized distributors. Mouser does not manufacturer.

a. Mouser is responsible for the conformance of the products we sell and processes and services we outsource. This includes product from sources defined by the customer, as applicable. Asset Management is responsible for the management of the product purchasing process, including the purchasing process for any applicable outsourced processes vendors used for repackaging product. Warehouse Management and Warehouse Admin(s) are responsible for the outsourced vendor purchasing process, as it relates to preventative maintenance, scrap, calibration and equipment installation.

b. Receiving shall ensure the product from outsourced vendors conform to PO requirements such as: kind, count, repackaging type and condition per WHRV-PR-070 Receiving Process.

c. Mouser will ensure where required that Mouser and all applicable suppliers use customer-approved special process sources.

d. Mouser has identified and managed the risk associated with the external provision of processes, products and services, as well as the selection and use of external suppliers.

e. Mouser Purchase Order Terms and Conditions inform suppliers to assure all relevant Purchase Order requirements are flowed down to sub-tier suppliers where required.

f. Product going from Mouser to an outsourced vendor is for repackaging product for stock purposes only. See PTAM-PR-036 LVA Program – Asset Management. Products has made the decision, to repackage specific products in stock into smaller quantities or in a different packaging method that sells better to our customers.

g. Products may drop ship directly from the Manufacturer per SASV-PR-018 Drop Ships, PTAM-PR-005 Drop Ship Invoice Process, PTAM-PR-027 International Drop Ships and PTAM-PR-006 Purchase Order Entry-Drop Ship Purchase Order.

h. Mouser has implemented controls to prevent the purchase of counterfeit and suspected unapproved parts in accordance with aerospace standard AS6496. See procedure QS-PR-024 Anti-Counterfeit Control Plan for more details.

8.4.1.1 Mouser has:

a. Defined the process, responsibilities and authority for the approval of suppliers and any subsequent changes in their approval status. Control of the use of suppliers is accomplished by their approval status controlling a systems based purchasing process. See procedures PTOP-PR-046 New Supplier Evaluation and Approval and PTOP-PR-040 Supplier Re-evaluation, for details on processes that regulate suppliers providing product for resells and any outsourced process suppliers used by the Products department. For other suppliers that affect quality requirements of the QMS for outsourced processes and services, see procedure QS-PR-017 Outsourced Processes.
b. Maintained 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 for outsourced processes and services, will be defined in QS-PR-017 Outsourced Processes.

c. Periodically reviewed Supplier performance. 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 for detail on this process for suppliers that provide new products Mouser resells. For other suppliers that affect quality requirements of the QMS for outsourced processes and services, see QS-PR-017 Outsourced Processes.

d. 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 for outsourced processes and services, see QS-PR-017 Outsourced Processes.


8.4.2 Type and Extent of Control

Management shall ensure that externally provided processes, products or services do not adversely affect the Mouser’s ability to consistently deliver conforming products and services to our customers.

Methods of Control:

a. Mouser determines and applies criteria for the evaluation, selection, monitoring of performance and re-evaluations of external providers to ensure suppliers conform to the requirements defined in our Quality Management System procedures.

   - For Products Department Suppliers see PTOP-PR-046 New Supplier Evaluation and Approval, and PTOP-PR-040 Supplier Re-Evaluation.
   - For Outsourced Calibration Vendors see QS-PR-012 TMDE Program.
   - For Preventative Maintenance and Equipment Installation Outsourced Vendors in the Warehouse see WHPM-PR-005 Outsourced Process: Supplier Evaluation (Warehouse).
   - For Technical Support Outsourced Vendors see SATS-PR-008 Quoting Value Added Services.

b. External Providers are required to meet PO requirements.

c. 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. Except for Lead Acid batteries, Mouser performs no testing or measurement on products for resale. See WHRV-PR-070 Receiving Process. Mouser has no intentions of verifying product at the supplier’s premises.

d. When discrepancies are found during the Receiving process, the Receiving department will follow WHRV-PR-012 Receipt Discrepancy.
e. Nonconforming or suspect nonconforming product is segregated to an SDR hold self per WHRV-PR-037 SDR Hold Shelf. The resolution is given by Asset Management and handled accordingly by a Receiving Specialist.

8.4.3 Information for External Providers

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

Products department purchasing requirements are reviewed prior to being communicated to the supplier. See procedure PTAM-PR-002 Product Purchasing. 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 for a list of outsourced process vendors.

The following requirements are flowed down to suppliers at Mouser:

a. Requirements regarding the need for the supplier to notify Mouser of nonconforming processes, products, and services, and obtain Mouser approval for nonconforming product disposition.

b. Notify Mouser of changes in processes, or services, changes of suppliers, change of manufacturing facility location and obtain Mouser approval.

c. Flow down to external providers (suppliers) the applicable requirements including customer requirements.

d. Retain records including retention periods and disposition requirements.

e. Right of access by Mouser, the customer and regulatory authorities to the applicable areas of all facilities and to applicable documented information, at any level of the supply chain.

f. The importance of ethical behavior

g. Their contribution to product safety, and product and service conformity.

h. Requirements for a certificate of conformity.

i. DPAS prioritization of an order.

j. Prevent the use of counterfeit parts.

k. The use of customer-designated or approved external providers, including process sources when applicable.

l. The control and monitoring activities of the external provider's performance to be applied by Mouser.

The following requirements will be addressed as needed.

a. Requirements for Mouser approval of products or services, procedures, processes and equipment.

b. Requirements for competence and qualification of persons.
c. The need to implement a Quality Management System.

d. Requirements for the processes, products, and services to be provided including identification of relevant technical data such as specifications, drawings, process requirements and work instructions.

e. Requirements for design and development control, test, inspection, verification, use of statistical techniques for product acceptance and related instructions for acceptance by the organization.

f. Any requirements for verification or validation activities that Mouser or our customers, intend to perform at the external providers premises.

g. Provide test specimens for design approval, inspection/verification, investigation, or auditing.

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

a. the availability of documented information that describes the characteristics of the products, to be produced, the services to be provided, or activities to be performed;

b. the results to be achieve at Mouser could be presented in the form of a documented procedure or work instruction, process plan, quality improvement plan, or key process performance goals. See QS-PR-014 Process Control Procedure;

c. the use of suitable infrastructure and environment for the operation of processes;

data. the availability and use of suitable monitoring and measuring resources;

e. the implementation of monitoring and measurement, at various stages to verify that criteria for control of processes or outputs, and acceptance criteria for products and services have been met;

f. release, delivery, and post-delivery activities,

g. the appointment of competent persons, including any required qualification;

h. the implementation of actions to prevent human error;

i. accountability for all product (e.g., parts quantities, split orders, nonconforming product),

j. the availability of evidence that all operations have been completed as planned, or as otherwise documented and authorized,

k. provision for the prevention, detection and removal of foreign objects,
I. the control and monitoring of utilities and supplies (e.g., water, compressed air, electricity, chemical products) to the extent they affect conformity to product requirements, and

m. the establishment of criteria for workmanship, (e.g., written standards, representative samples, illustrations).

8.5.1.1 Control of Equipment, Tools, and Software Programs
Mouser uses many kinds of equipment, tools and software systems to produce an order that conforms to the customer’s requirement. The warehouse maintains the infrastructure of conveyer systems, lift vehicles and other equipment through warehouse and preventative maintenance processes. Enterprise software is maintained and controlled through IS processes.

Validation of new equipment, tools and software used to automate distribution processes, is validated by the installation vendor in the presence of either the Director of Warehouse Outbound Operations, the Sr. Warehouse Manager of Inbound, or the Warehouse Maintenance Supervisor, prior to release to Mouser operations.

Preventative Maintenance is performed per WHPM-PR-001 Preventative Maintenance.

8.5.1.2 Validation and Control of Special Processes
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-040 MSL Supplier Dry Cabinet Validation Process. Neither can be verified before use by the customer. Personnel are trained on ESD and MSL procedures applicable to their specific job function.

Mouser maintains an ANSI/ESD S20.20 Protection of Electrical and Electronic Parts, Assemblies and Equipment certification to ensure Mouser’s ESD processes comply with ANSI/ESD S20.20 requirements.

Mouser’s MSL processes are aligned with the current revision of IPC-JEDEC J-STD-033 Handling, Packing, Shipping and Use of Moisture/Reflow Sensitive Surface Mount Devices.

8.5.1.3 Production Process Verification
Kits that are subject to First Article Inspection include Customer Kits, Mouser Kits and Supplier/Mouser Kits. These kits are assembled by Mouser and defined in QS-PR-027 Configuration Management. Each time a kit is developed the process and the first Kit will be verified through inspection. See WHRV-PR-060 Kits.

8.5.2 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 8.1.2 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 when available.

c. The Manufacturer or Authorized Distributors packlist and associated documents are maintained per QS-PR-008 Record Control.

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 procedures.

8.5.3 Property Belonging to Customers or Suppliers

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

Supplier owned property at Mouser consists of consigned inventory, supplier owned shipping containers, and various Warehouse equipment.

Customer and supplier owned property, returns, customer and supplier owned drawings and specifications are addressed in QS-PR-035 Customer and Supplier Owned Property.

8.5.4 Preservation

Mouser preserves the products during production and service provision to the extent necessary to ensure conformity to requirements. This preservation can includes identification, handling, contamination control, packaging, storage, or transportation, and protection.

a. Identification - All products Mouser distributes are identified with 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. Contamination Control – Warehouse employees are trained on FOD awareness and must adhere to FOD guidelines in WHTR-PR-026 Foreign Object Detection (FOD) Training.

d. 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 per warehouse procedures. Packaging requirements will mitigate risk of Foreign Object Damage (FOD).
e. **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.

f. **Transportation** - ESD and MSL product is transported from designated ESD and MSL areas, in protective ESD and MSL packaging. All product is packaged accordingly to prevent damage during shipment.

g. **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) prevention, detection and removal** – Warehouse employees are trained to detect and remove foreign objects.

**h. Sensitive Devices** – ESD is considered sensitive. When identified by the supplier as ESDS (Electrostatic Discharge Sensitive), the product will be handled, packaged and stored as such. Mouser is registered to ANSI/ESD S 20.20 Protection of Electrical and Electronic Parts, Assemblies and Equipment and in compliance with ANSI/ESD S541 Packaging materials for ESD Sensitive Items, internal Warehouse and Quality procedures for protection and qualification of ESD product and materials. ESD product is stored in EPAs (ESD Protected Areas).

**i. Safety warnings and cautions**– Markings and labels to this effect are applied by the supplier and Mouser will take precautions to preserve these markings and/or labels. Mouser also uses caution labels when packaging MSL and ESD products.

**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 and store hazardous materials and products.

### 8.5.5 Post-Delivery Activities

When determining post-delivery activities, Mouser considers:

a. statutory and regulatory requirements,

b. the potential of undesired consequences with products and services,

c. the nature, use, and intended lifetime of its products and services,

d. customer requirements,

e. customer feedback,

f. collection and analysis of in-service data (e.g., performance, reliability, lessons learned),

g. control, planning, and provision of technical documentation related to the product use,
h. product/customer support (e.g., queries, training, warranties, maintenance, replacement parts, resources, obsolescence).

When problems are reported after delivery, Mouser shall take appropriate action including investigation and reporting. Mouser will gladly support any request by an end customer for Failure Analysis. We will work with the customer and manufacturer to get the customer an answer. Mouser also will perform 8D-Corrective Actions at the request of the end customer.

8.5.6 Control of changes
Mouser reviews and controls process changes, to the extent necessary to ensure continuing conformity with requirements. Process change can include production equipment, tooling, and software programs. Process change control requirements are listed in QS-PR-014 Process Control Procedure. Planning or making significant changes to our QMS, require a process plan. The process owners are responsible for maintaining process change control documentation.

8.6 Release of Orders
Mouser is responsible for the release of orders to customers that meet agreed on terms and conditions of sales. Mouser is also responsible for compliance with any statuary or regulation concerning the order and the parts within the order.

8.6.1 Acceptance Criteria
Account or Order level acceptance criteria can be entered by Sales. This criteria can include date code requirements, NAFTA COO and Aerospace Packing List. Part level criteria is set in the system and can include Export Compliance, Environmental Compliance and Hazardous Material handling.

8.6.2 Sales Release of Orders
Orders are reviewed by Sales at the time of entry into the system. Acceptance is verified when the Sales employee executes the order on the system. Web orders are reviewed and accepted by the customer when they check out on the website. The Sales employee’s identification is recorded in the system.

8.6.3 Order Pulling Release of Orders
Sales orders are sent digitally to the Warehouse with acceptance criteria. Order Pullers are sent specific lines of the order with acceptance criteria wirelessly. They review the acceptance criteria. They release line of the order when they scan the line to the conveyer or inspection station. The Order Puller’s identification is recorded in the system.

8.6.4 Shipping Release of Orders
Shipping employees and automated shipping lines review a subset of acceptance criteria and verify the correct lines go into an Order before release. Shipping also ensures correct packing and required documentation is with the order. Release is recorded in the System.

8.7 Control of Nonconforming Outputs

8.7.1 Mouser will ensure that product which does not conform to product requirements is identified and controlled to prevent its unintended use or delivery. Non-conforming product at Mouser is defined as one of the following:
• Components, Parts, Equipment or Supplies intended for resale or distribution which have been identified by a customer or a supplier as being defective in any way.

• Suspected or confirmed Counterfeit or Unapproved Components, Parts, Equipment or Supplies as defined in AS6496.

• Components, Parts, Equipment or Supplies returned from the customer.

• Components, Parts, Equipment or Supplies which have lost traceability to Mouser’s computer systems.

• Components, Parts, Equipment or Supplies which have been scheduled for scrap as part of a stock rotation action.

• Orders or Lines not meeting Mouser or a customer’s requirements.

• Orders that are not on time.

8.7.1.1 Procedure QS-PR-007 Nonconforming Product Control defines the controls and related responsibilities and authorities for dealing with nonconforming product, the responsibility and authority for the review and disposition of nonconforming product, and the process for approving personnel making these decisions. The nonconformity procedure will also address re-verification and containment, if necessary.

8.7.1.2 Disposition of Nonconforming Products at Mouser are limited to:

• Scrap
• Rejection for return to the supplier
• Rejection for revalidation by the manufacturer
• Submittal to customer for “USE AS IS” disposition

Mouser acknowledges it has no authority to rework or repair product except MSL product refresh.

8.7.1.3 When product is recalled by the supplier or nonconforming product which has already shipped to the customer is identified as nonconforming, the Product Recall process will be initiated per procedure by Products. Customers will be notified in a timely manner. See procedure PTAM-PR-015 Product Recall and QS-PR-011 Product Recall in Quality for details.

8.7.1.4 Correcting discrepancies on previously placed orders, are per Sales procedure SASV-PR-024 Orders – Correction. Correction Orders are sent to customers to adjust, fix, or replace an order previously sent due to an error or for customer convenience.

8.7.1.5 Product dispositioned for scrap is positively controlled until it can be sent to a recycler and rendered unusable. See WHSA-PR-016 Turtle Diagram Scrap.

8.7.1.6 Nonconforming product written up on a Service Order, is placed on the Products Hold Shelf for segregation and investigation. See PTOP-PR-133 Service Orders.

8.7.2 Nonconformity records will be maintained in accordance with the nonconformity procedure and procedure QS-PR-008 Record Control.
9.0 Performance Evaluation

9.1 Monitoring, Measurement, Analysis, and Evaluation

9.1.1 General

a. Mouser monitors and measures key processes which indicate the effectiveness of the Quality Management System. Key processes are the processes identified in the process map see appendix A. Key Processes will have turtle diagrams and a FMEA for risk assessment. The FMEA contains tabs for measurement and analysis results.

b. Mouser determines the methods for monitoring, measurement, analysis, and evaluation needed to ensure the Quality Management System meets requirements. See QS-PR-014 Process Control Procedure and QS-PR-028 Risk Management.

Quality System measurements are described in procedure QS-PR-006 Quality Measurements.

c. Mouser determines when monitoring and measuring shall be performed. All Key Processes except for Supplier Evaluations, will have a measurement of its effectiveness. See Measurement Process in QS-PR-014 Process Control Procedure.

d. Key Process Owners will have measurement results analyzed and evaluated at a suitable interval, documented, and retained as a Quality Record. The review interval will be documented on the process Turtle Diagram. Appropriate corrective or preventive action will be taken when planned results are not achieved. See Process Analysis in QS-PR-014 Process Control Procedure.

9.1.2 Customer Satisfaction

Mouser utilizes survey results to monitor customer’s perception of the degree to which their needs and expectations have been fulfilled; 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.

9.1.3 Analysis and Evaluation

Mouser analyzes and evaluates appropriate 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.

The results of Analysis shall be used to evaluate:

a. conformity of products and services;

b. the degree of Customer Satisfaction;

c. the performance of the Quality Management System;

d. if planning has been implemented effectively;

e. the effectiveness of actions taken to address risks and opportunities;

f. the performance of external providers;

g. the need for improvements to the Quality Management System.
Once the measurements have been analyzed, any processes not meeting goal will be evaluated to see what process improvement actions are needed. These actions will be listed on the analysis tab, as illustrated in QS-PR-014 Process Control Procedure within the Process Analysis for key processes section. 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.

## 9.2 Internal Audit

### 9.2.1 Mouser

Mouser has effectively implemented and maintains an Internal Audit Program, to ensure conformity to our Quality Management System requirements and AS9100D.

### 9.2.2 The responsibilities and requirements for planning and conducting audits, audit frequency, method, reporting results, appropriate correction and corrective actions taken, and maintaining records are defined in procedure QS-PR-005 Audit Procedure.

## 9.3 Management Review

### 9.3.1 General

Management reviews elements of the QMS on a continual basis. The Quality Council will meet annually at planned intervals to perform a formal Management Review per procedure QS-PR-001 Management Review Process. Formal Management Review records are maintained as Quality Records per QS-PR-008 Record Control.

### 9.3.2 Management Review Inputs

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

a. the status of actions from previous management reviews;

b. changes in external and internal issues that are relevant to the Quality Management System;

c. information on the performance and effectiveness of the Quality Management System, including trends in:
   1. customer satisfaction and feedback from relevant interested parties;
   2. the extent to which quality objectives have been met;
   3. process performance and conformity of products and services;
   4. nonconformities and corrective action;
   5. monitoring and measuring results;
   6. audit results;
   7. the performance of external providers;
   8. on-time delivery performance;

d. the adequacy of resources;

e. the effectiveness of actions taken to address risks and opportunities;

f. opportunities for improvement.
9.3.3 Management Review Outputs
Management review meeting notes include any decisions/actions related to the following:

   a. opportunities for improvement;
   b. any need for changes to the Quality Management System;
   c. resource needs;
   d. risks identified.

10.0 Improvement

10.1 General
Mouser selects opportunities for improvement and implements any necessary actions to meet customer requirements and enhance customer satisfaction.

These actions include:

   a. improving our processes to meet requirements as well as future needs and expectations;
   b. correcting, preventing, or reducing undesired effects;
   c. improving the performance and effectiveness of the Quality Management System.

Improvements can be initiated and implemented through activities such as FMEA reviews, Management Reviews, process change planning and corrective actions.

10.2 Nonconformity and Corrective Actions

10.2.1 Whenever nonconformities occur, including customer complaints, Mouser shall:

   a. react to the nonconformity, and as applicable take action to control and correct it, and deal with the consequences;
   b. evaluate the need for action to eliminate the cause(s) of the nonconformity, in order that it does not recur or occur elsewhere, by:
      c. reviewing and analyzing the nonconformity;
      d. determining the cause of the nonconformity, including as applicable, those related to human factors;
      e. determining if similar nonconformities exist, or could potentially occur;
      f. implement any action needed,
      g. review the effectiveness of any corrective action taken;
      h. update risks and opportunities determined during planning, if necessary;
      i. make changes to the Quality Management System, if necessary;
      j. flow down corrective action requirements to an external providers if they are responsible for the nonconformity;
k. take specific actions if timely and effective corrective actions are not achieved.

Corrective actions shall be appropriate to the effects of the nonconformities encountered.

10.2.2 Mouser maintains a comprehensive Corrective Action Program for the Quality Management System, which includes the nature of the nonconformity, subsequent actions taken, and the results of the corrective action(s). See QS-PR-002 8-D Corrective Action Program for details of the Corrective Action Program.

10.2.2.1 Corrective Action records are maintained as a Quality Record per QS-PR-008 Record Control Procedure.

10.3 Continual Improvement
Mouser continually improves the suitability, adequacy, and effectiveness of the Quality Management System by considering the results of analysis and evaluation, the outputs of management review, to determine if there are any needs or opportunities to be addressed, and any other appropriate analysis of data. Mouser will seek out improvement opportunities. See procedure QS-PR-014 Process Control Procedure for details.
Appendix A: Process Map

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

- Requirements and Feedback from Customer
- Order to Customer
- Sales Orders
- Sales Process
  - Quote Process - Key
  - Order Entry Process - Key
  - Customer Feedback Process
- Products Process
  - Supplier Selection and Evaluation Process
  - Supplier Re-Evaluation Process - Key
  - Part Number Management Process - Key
  - New Product Introduction (NPI) Process - Key
- Disposition of Non-Conforming Products
  - Stock Rotation Request
- Products Support Process
  - Replenishment Process (Purchasing) - Key
  - Expediting Process - Key
  - Supplier Returns Process - Key

Applied throughout the Quality Management System

- Resources Management Process
  - Training Process
- Monitor/Measurement Process
  - Customer Satisfaction Process
  - Internal Audit Process
  - PPM Metrics Process
  - Shipping Delivery Measurement Process
- Management Process
  - Management Review Process
  - Risk Management Process
  - Corrective Action Process
  - Preventive Action Process
Appendix B: Organizational Chart

Glenn Smith
President & CEO

Jeff Newell
Senior VP of Products

Pete Shopp
Senior VP of Business Operations

Chuck Amsden
Vice President of Quality

Mark Burr-Lonnon
Senior VP of EMEA & APAC

Raju Shah
Senior VP of Information Services

Kevin Hess
Senior VP of Marketing

Hayne Shumate
Senior VP of E-Business

Coby Kleinjan
VP of America Customer Service

Scott Brown
VP of Finance

Tracey Mellenthin
VP of Human Resources

Todd McTee
VP of Business Development
# Appendix C: Quality Manual Revision History

<table>
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<tr>
<th>Date</th>
<th>Rev</th>
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<td>3/15/04</td>
<td>-</td>
<td>Original</td>
<td>Glenn Smith Chuck Amsden</td>
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<td>5/30/04</td>
<td>A</td>
<td>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 sentence to 8.2.4. Added procedure ref. to 8.5.3. Revised Appendix B to be Product Realization flow</td>
<td>Glenn Smith Chuck Amsden</td>
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<td>7/12/04</td>
<td>B</td>
<td>Deleted exclusion for 7.5.2. Revised Appendix A and B for accuracy. Revised to WCS, deleted pick list.</td>
<td>Glenn Smith Chuck Amsden</td>
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<td>8/10/04</td>
<td>C</td>
<td>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.</td>
<td>Glenn Smith Chuck Amsden</td>
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<tr>
<td>8/18/04</td>
<td>D</td>
<td>Revised Appendix A to Process Map.</td>
<td>Glenn Smith Chuck Amsden</td>
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<td>9/14/04</td>
<td>E</td>
<td>Revised 7.4.1b to remove approved supplier list.</td>
<td>Glenn Smith Chuck Amsden</td>
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<td>10/15/04</td>
<td>F</td>
<td>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&amp;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.</td>
<td>Glenn Smith President Chuck Amsden Quality Manager</td>
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<td>11/15/05</td>
<td>G</td>
<td>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.</td>
<td>Glenn Smith President</td>
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<td>3/21/07</td>
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<td>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.</td>
<td>Glenn Smith President</td>
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<td>9/14/07</td>
<td>J</td>
<td>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.</td>
<td>Glenn Smith President</td>
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<td>8/25/08</td>
<td>K</td>
<td>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.</td>
<td>Glenn Smith President</td>
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<td>9/25/09</td>
<td>L</td>
<td>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.</td>
<td>Glenn Smith President</td>
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<td>1/26/11</td>
<td>M</td>
<td>Revised to AS9120A</td>
<td>Glenn Smith President &amp; CEO</td>
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<td>7/3/13</td>
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<td>Glenn Smith President &amp; CEO</td>
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<td>4/1/14</td>
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<td>Minor changes to Process Map and numbering error at 7.1.4.</td>
<td>Glenn Smith President &amp; CEO</td>
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<tr>
<td>4/12/16</td>
<td>P</td>
<td>Added language describing growth in 2.0. Added &quot;and other standards&quot; in 4.1. Added &quot;and other standards&quot; in 4.1.1. Changed language to better align with standard in 4.2.1.c. Added &quot;and other standards&quot; in 4.2.1.c. Added &quot;and other standards&quot; in 4.2.1.d. Edited title of QS-PR-004 in 4.2.3. Added &quot;developing&quot; in 5.1. Changed &quot;Continual Process Improvement&quot; to &quot;Continual Improvement of Services and Processes&quot; in 5.4.1. Added to end &quot;Procedure QS-PR-014 Process Control procedure describes requirement for Process Control.&quot; in 5.4.2. Changed employee to active employee in 6.2.2.d. Updated multiple procedure titles in 7.1.3. Updated QS-PR-010 procedure title in 7.2.1. Added &quot;an order is confirmed&quot; in 7.2.3. Deleted statement, &quot;Mouser publishes the e-mail addresses of its managers on Mouser's website.&quot; in 7.2.3.e. Updated title of QS-PR-024 in 7.4.1.g. Changed &quot;AS5553&quot; to &quot;AS6496&quot; in 7.4.1.g. Updated procedure PTOP-PR-059 to PTAM-PR-002 in 7.4.2.1. Added &quot;DPAS prioritization of an order&quot; in 7.4.2.e. Removed statement, &quot;See WHRV (Receiving) procedures for more details.&quot; in 7.4.3. Changed to &quot;Process Owners are responsible for ensuring control over Processes, as per QS-PR-014 Process Control Procedure&quot; in 7.5.1.2. Added &quot;end&quot; to customer in 7.5.1.4. Added &quot;and in-house personnel identified to perform specific calibrations&quot; in 7.6.3. Changed &quot;is&quot; to &quot;may be&quot; in 7.6.5. Added &quot;to perform work effecting quality&quot; in 7.6.7. Added &quot;and other standards&quot; in 8.2.2.1. Changed AS5553 to AS6496 in 8.3. Added &quot;except MSL product refresh&quot; in 8.3.2. Updated procedure PTOP-PR-011 to PTAM-PR-015 and added &quot;and QS-PR-011 Product Recall in Quality&quot; in 8.3.3. Changed Scrap Control Process to WHSA-PR-016 in 8.3.5. Updated QS-PR-014 procedure title in 8.5.1. Updated QS-PR-002 procedure title in 8.5.2. Edited Key Processes list in Appendix A: Process Map. Updated personnel in Appendix B: Organization Chart. Edited formatting and corrected punctuation/grammar throughout in Entire document.</td>
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<td>12/12/17</td>
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<td>Total revision changed to AS9100D requirements.</td>
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**Glenn Smith**  
President & CEO  
Chuck Amsden  
Director of Quality
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| 04/06/18   | R    | Updated section 4.3 Scope with additional sections 8.4.3 g, 8.5.5 f, g and h, CA 1554. Added “and any outsourced process suppliers used by the Products department”. In section 8.4.1.1. Rewrote section 8.4.2 (a.). Removed Supplier Selection and Evaluation as a Key Process on Appendix A. | Glenn Smith  
President & CEO  
Chuck Amsden VP of Quality |