

Signal Technology Corporation Arizona Operation
Quality Manual

The Arizona Operation Quality Manual describes the Quality System in place at:

Signal Technology
Arizona Operation

340 North Roosevelt Avenue
Chandler Arizona 85226

This Quality Manual is designed to satisfy or exceed the requirements of:
ANSI/ISO/ASQC Q9001-2000

And AEROSPACE 9100

Quality Management Systems Requirements

The policies in the Arizona Operations Quality Manual serve as the basis and context for all
procedures and processes in the:

Design, manufacture, and sales of RF and Microwave oscillators, Custom Microwave Assemblies,
DC/DC Converters and Custom Power Assemblies

QUALITY POLICY

Arizona Operation places a high priority on the quality of our products and services: a
priority which ranks above compromise for any reason. Every employee of STC is
committed to ensure that every product, process, and related services provided by the
company is delivered defect and error free, meets or exceeds contractual requirements
for performance and schedule, and has earned the satisfaction of each customer.

Our Quality System shall comply with the management system defined in ISO9001-
2000 and AEROSPACE 9100



Gene Joles, President

SIGNAL TECHNOLOGY CORP.

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INTRODUCTION

Signal Technology, Arizona Operation developed and implemented a Quality Management System in order to document the company's best practices, better satisfy the requirements and expectations of its customers and improve the overall management of the company.

The manual is divided into eight sections that correlate to the Quality Management Systems sections of ISO9001 (2000). Each section begins with a policy statement expressing Signal Technology, Arizona Operation's obligation to implement the basic requirements of the referenced Quality Management System section. Each policy statement is followed by specific information pertaining to the procedures that describe the methods used to implement the necessary requirements.

This manual describes the Quality Management System, delineates authorities, inter relationships and responsibilities of the personnel responsible for performing within the system. The manual also provides procedures or references for all activities comprising the Quality Management System to ensure compliance to the necessary requirements of the standard.

This manual is used internally to guide the company's employees through the various requirements of the ISO standard that must be met and maintained in order to ensure customer satisfaction, continuous improvement and provide the necessary instructions that create an empowered work force.

This manual is used externally to introduce our Quality Management System to our customers and other external organizations or individuals. The manual is used to familiarize them with the controls that have been implemented to assure them that the integrity of the Quality Management System is maintained and focused on customer satisfaction and continuous improvement.

Quality Manual Distribution

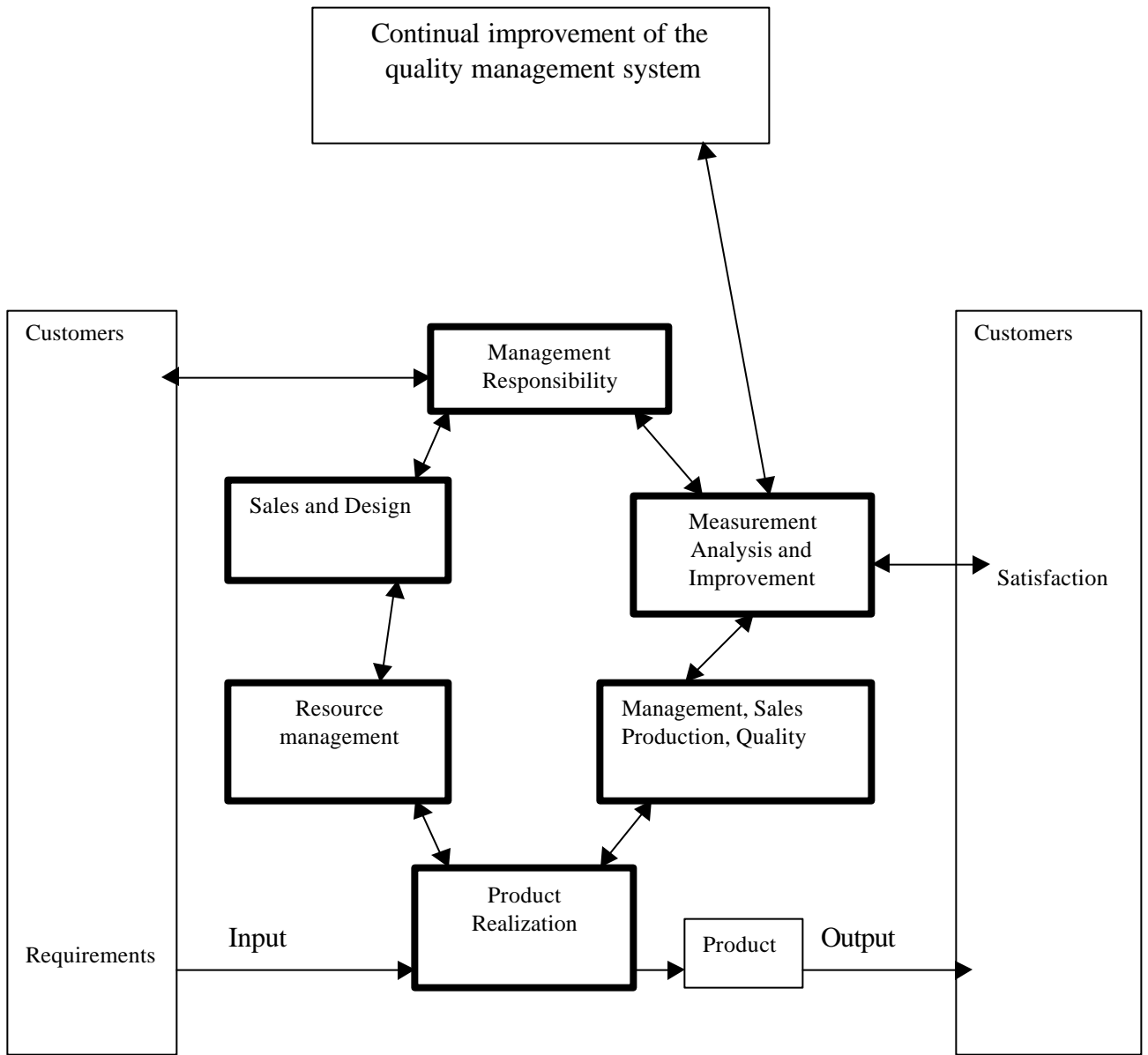
The Quality manual is made available to customer for review, upon request. A printed copy of the latest revision is available in the cafeteria, in the Quality Engineering office, and in the Vice President of Product Assurance office. Electronic version is available on the company CAD retrieval system.

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ORGANIZATIONAL CHART



QUALITY MANAGEMENT SYSTEM



1.1 GENERAL

The quality manual outlines the policies, procedures and requirements of the Quality management System. The system is structured to comply with the conditions set forth in the International Standard ISO 9001:2000.

1.2 Application

Signal Technology has determined that the following requirements are not applicable to the operations at this site and are documented as exclusions:

Post delivery activities. Signal Technology does not provide post delivery activities at customers' facilities, such as installation and training, post delivery activity is limited to rework, or repair of original equipment at Signal Technology. Post delivery activities performed at Signal Technology shall be performed in the same manner and under the same conditions as original manufacturing conditions.

2.0 APPLICABLE DOCUMENTS

The following documents were used as reference during preparation of the Quality Management System:

American National Standard ANSI/ISO/ASQ Q 9000-2000, Quality Management Systems Vocabulary

American National Standard ANSI/ISO/ASQ Q 9001-2000, Quality Management Systems Requirements

American National Standard ANSI/ISO/ASQ Q9004-2000 Quality Management Systems, Guidelines for performance Improvements.

SAE Aerospace Standard SAE AS9100

3.0 TERMS AND DEFINITIONS

The terms and definitions as defined in ISO 9001:2000

4.0 QUALITY MANAGEMENT SYSTEMS DEFINITIONS

For the purpose of this manual the terms and definitions in ISO9001 apply with the following exception:

Service : Rework or repair of customer owned products manufactured by Signal Technology with rework or repair performed at Signal Technology.

4.1 General Requirements

Signal Technology Arizona Operation has established, documented and implemented a Quality Management System (QMS) in accordance with the requirements of ISO9001 (2000). The system is maintained and continually improved through the use of the quality policy, quality objectives, audit results, analysis of data, corrective and preventive action and management review.

To design and implement the QMS Signal Technology, Arizona Operation has:

- Identified the processes needed for the QMS and their application throughout the organization and documented them on the Process Flow Diagram at the end of this section of the Quality Manual.
- Determined the sequence and interaction of these processes, and illustrated them on the Process Flow Diagram.
- Determined criteria and methods needed to ensure that the operation and control of the processes are effective, and documented in shop travelers.
- Ensured the continuing availability of resources and information necessary to achieve planned results and continual improvement of these processes
- Established systems to monitor, measure and analyze these processes and
- Established processes to identify and implement actions necessary to achieve planned results and continual improvement of these processes

4.2 Documentation Requirement

4.2.1 General

The Quality Management System documentation includes

- A documented Quality Policy
- This Quality Manual
- Documented Procedures
- Quality Records
- Documents identified as needed for the effective planning, operation and control of our processes, and
- Quality system requirements imposed by the applicable regulatory authorities

All personnel have access to the quality system documentation and are aware of relevant procedures. Customers and/or regulatory authorities representatives have access to the QMS documentation upon request.

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4.2.2 Quality Manual

This Quality Manual has been prepared to describe Signal Technology, Arizona Operation's QMS. The scope and permissible exclusions of the QMS are described in section one of this manual. Each section of the manual references documented QMS procedures to the requirements outlined in that section. The Process Flow Diagram at the end of section 4 provides a description of the interaction between the processes of the QMS system. The relationship between the ISO9001 and AS9100 requirements and the documented procedures is detailed in the Quality system document 67A21868-0002.

4.2.3 Control of Documents

All of the QMS documents are controlled according to the Document Control Procedure 67A21868-0005. This procedure defines the process for:

- Approving documents for adequacy prior to issue
- Reviewing and updating as necessary and re-approving documents
- Ensuring that changes and current revision status of documents are identified
- Ensuring that relevant versions of applicable documents are available at points of use
- Ensuring that documents remain legible and readily identifiable
- Ensuring that documents of external origin are identified and their distribution controlled, and
- Preventing the unintended use of obsolete documents and to apply suitable identification to them if they are retained for any purpose.
- When required, coordinate document changes with customers and/or regulatory authorities

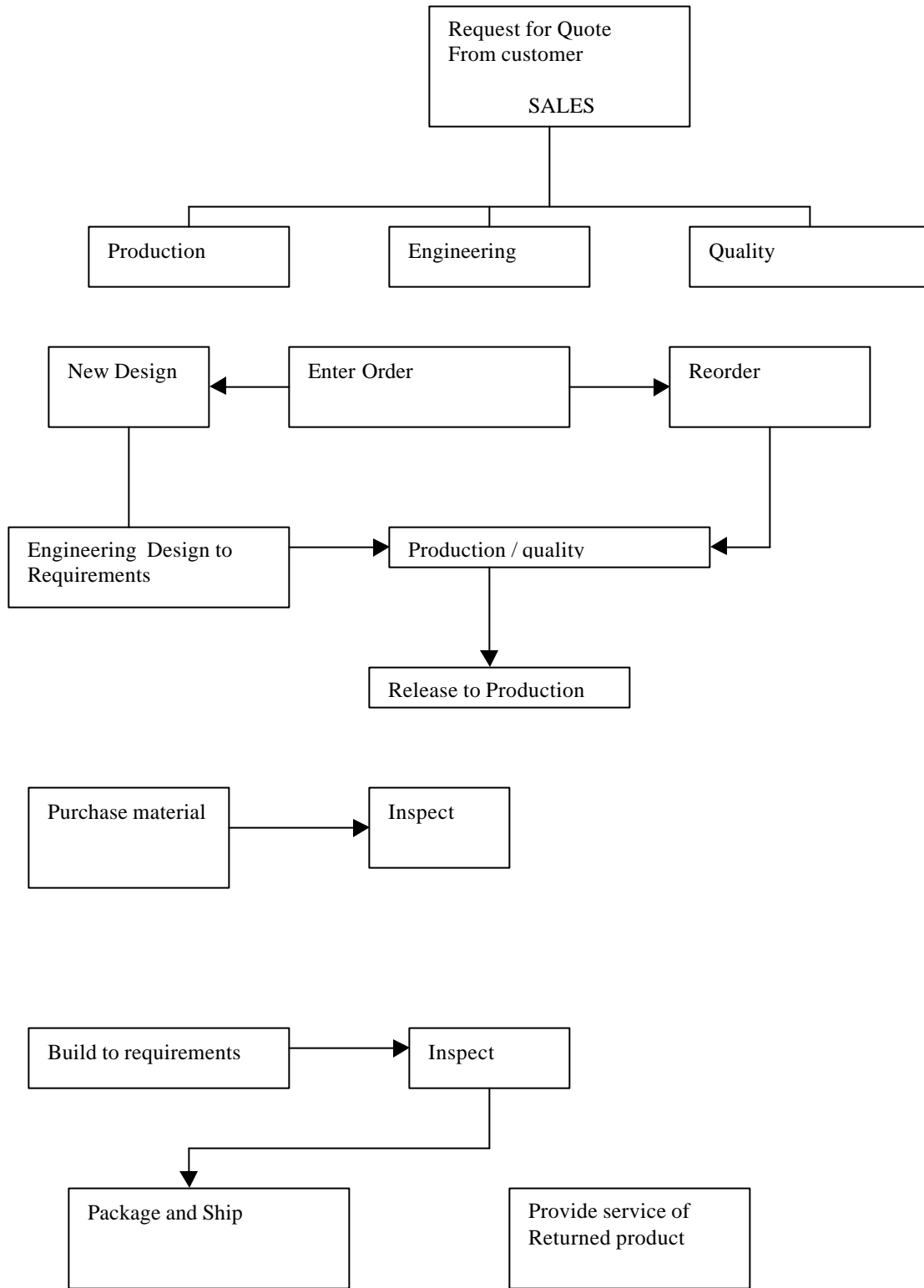
4.2.4 Control of Quality Records

Quality records are maintained to provide evidence of conformity to requirements and the effective operation of the QMS. The records are maintained according to the Control of Quality Records Procedure 67A21868-0016. This procedure requires that quality records remain legible, readily identifiable, and retrievable. The procedure defines the controls needed for identification, storage, protection, retrieval, retention time and disposition of quality records. The procedure defines the method for controlling records that are created by and/of retained by suppliers. Records are available for review by customer or regulatory authorities, as required by contract . Records may be hard copy or electronic data files.

4.3 Configuration Management

Signal Technology has established a configuration management procedure and maintains a process appropriate to the products produced.

MANUFACTURING PROCESS FLOW



5.0 Management Responsibility

5.1 Management commitment

Top management has been actively involved in implementing the quality management system (QMS). It has provided the vision and strategic direction for the growth of the QMS, and established objectives and the quality policy.

To continue to provide leadership and show commitment to the improvement of the QMS, management will do the following.

- Communicate the importance of meeting customer, statutory, and regulatory requirements
- Establish quality objectives
- Establish the quality policy
- Conduct quarterly management reviews
- Ensure the availability of resources

5.2 Customer focus

Signal Technology strives to identify current and future customer needs, to meet customer requirements and exceed customer expectations.

Top management ensures that customer requirements are understood and met, by requiring compliance with documented customer communication procedures. Customer requirements are determined, converted into internal requirements, and communicated to the appropriate people in our organization in accordance with the Contract Review Procedure 67A21868-0003.

5.3 Quality Policy

Top management ensures that the quality policy is communicated to all employees. It is included in the new employee training and training on the QMS. It is posted in prominent places throughout the facility to maintain high standards within our organization.

Management reviews the quality policy at each management review meeting to determine the policy's continuing suitability for our organization. The Quality Policy is documented in this document.

5.4 Quality Planning

5.4.1 Quality Objectives

Quality objectives are established to support the organization's efforts in achieving the quality policy and is reviewed periodically for suitability. Objectives have been established and are documented in Appendix A of this document. Quality objectives are measurable, and reviewed against performance goals at each management review meeting.

5.4.2 Quality management system planning

The quality system has been planned and implemented to meet our quality objectives and the requirements of 4.1 of the ISO 9001 standard. Quality planning takes place as changes that affect the quality system are planned and implemented.

5.5 Responsibility, authority and communication

An organizational chart has been established to show the interrelation of personnel in the organization. Job descriptions define the responsibilities and authorities of each of the positions on the organizational chart. Job descriptions and the organization are reviewed and approved by top management for adequacy. These documents are available, as required to help employees understand responsibilities and authorities. An organization chart is located on page six of this manual.

5.5.1 Management representative

The Vice President of Product Assurance has been appointed by top management as the management representative. As management representative, he has the following responsibility and authority

- Ensure that processes needed for the quality management system are established and implemented
- Report to top management on the performance of the quality management system, and note needed improvements
- Promote awareness of customer requirements throughout the organization
- Act as liaison with external parties such as customers and auditors on matters relating to the QMS

The management representative has the authority to resolve matters pertaining to quality or to appoint individuals or teams to resolve the issue.

5.5.2 Internal communication

Processes are established for communication within the organization. Methods of communicating the effectiveness of the QMS include department and management meetings, management review, circulation of minutes of management review meetings, internal audit results and other routine business communication.

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5.6 Management Review

5.6.1 General

Top management reviews the QMS quarterly at management review meetings. The review assesses the continuing QMS suitability, adequacy and effectiveness, identifying opportunities for improvement and needed changes. Records are maintained for each management review meeting.

5.6.2 Review input

Assessment of the QMS is based on a review of information inputs to management review. These inputs include the following:

- Results of audits
- Customer feedback
- Process performance and product conformity
- Status of preventive and corrective actions
- Follow-up actions from previous management reviews
- Planned changes that could affect the quality management system
- Recommendation for improvement

5.6.3 Review output

During these review meetings, management will identify appropriate actions to be taken regarding the following issues:

- Improvement of the effectiveness of the quality management system and its processes
- Improvement of product related to customer requirements
- Resource needs

Responsibility for required action is assigned to members of the management review team, and/or process owners. Any decisions made during the meeting, assigned actions, and their due dates are recorded as action items in the management review minutes.

5.0 Resource management

5.1 Provision of resources

Signal Technology has implemented a Quality Management System that complies with the ISO 9001 2000 standard. This implementation was achieved with management commitment and with sufficient resources for the implementation. To effectively maintain and continually improve the system, management determines and provides necessary resources.

5.2 Human resources

5.2.1 General

To ensure competence of our personnel, job descriptions have been prepared identifying the qualifications required for each position that affects product quality. Qualifications include requirements for education, skills, and experience. Appropriate qualifications, along with required training, provide the competence required for each position.

5.2.2 Competence, awareness and training

Qualifications are reviewed upon hire, when an employee changes positions or the requirements for a position change. Human resources maintains records of employee qualification. If any difference between the employee's qualifications and the requirements for the job are found, training or other action is taken to provide the employee with the necessary competence for the job. The results are evaluated to determine if they are effective. Training and evaluation are conducted according to the training procedure 67A21868-0018.

All employees are trained on the relevance and importance of their activities and how they contribute to the achievement of the quality objectives.

6.3 Infrastructure

To meet quality objectives and product requirements Signal Technology has determined the infrastructure needed. The infrastructure has been provided, and includes buildings, workspace, utilities, process equipment and supporting services. Existing infrastructure is maintained to ensure product conformity. Maintenance requirements are achieved on a planned and as need bases.

6.4 Work environment

A work environment suitable for achieving product conformance is maintained. The work environment is managed for continuing suitability. Data from the quality system is evaluated to determine if the work environment is sufficient for achieving conformance, or if preventive action related to the work environment is required. The work environment shall include such items as temperature, humidity, lighting, cleanliness, and protection from electrostatic discharge.

6.0 PRODUCT REALIZATION

6.1 Planning of product realization

Quality planning is required before new products or processes are implemented. The quality planning may take place as a design project, or according to the planning of product realization procedure 67A21868-0004. During this planning, management or assigned personnel identify:

- The quality objectives and requirements for the product
- Processes, documentation and resources required
- Verification, validation, monitoring, inspection and test requirements and
- Criteria for product acceptance
- Identification of resources to support operation and maintenance of the product

The output of quality planning includes documented shop travelers, processes, procedures, and design outputs.

6.2 Customer related processes

6.2.1 Determination of requirements related to the product

Signal Technology, Arizona Operation determines customer requirements before acceptance of an order. Customer requirements include those:

- Requested by the customer
- Required for delivery and post-delivery activities
- Not stated by the customer but necessary for specified use or known and intended use, when known
- Statutory and regulatory requirements related to the product
- Additional requirements determined by Signal Technology

Customer requirements are determined according to the customer related process procedure 67A21868-0003.

6.2.2 Review of requirements related to the product

Signal Technology, Arizona Operation has a process in place for the review of requirements related to the product 67A21868-0003. The review is conducted before the order is accepted. The process ensures that:

- Product requirements are defined
- Contract or order requirements differing from those previously expressed are resolved
- Signal Technology has the ability to meet the defined requirements
- Records are maintained showing the results of the review and any actions arising from the review
- Where a customer does not provide a documented statement of requirement, the customer requirements are confirmed before acceptance
- When product requirements are changed, Signal Technology, Arizona Operation communicates changes to relevant personnel and amends relevant documents
- Risks associated with products are evaluated (these risks may include such things as new technology, short delivery time, etc)

6.2.3 Customer communication

Signal Technology, Arizona Operation has implemented an effective procedure 67A21868-0003 for communicating with customers in relation to

- Product information
- Enquires, contracts and order handling, including amendments
- Customer feedback, including customer complaints

7.3 Design and Development

7.3.1 Design and development planning

The design and development procedure 67A21868-0004 outlines the process for controlling the design and development process. The engineering and production departments plan design and development according to this procedure. The design plan includes

- Design and development stages (this includes organization, task sequence, mandatory steps, significant stages and method of configuration control)
- Required design reviews
- Verification and validation methods appropriate to each design and development stage
- Responsibilities and authorities for design and development
- Identification of the technical interfaces required for the project
- Updating of the design plan as the project progresses

The complexity of the design shall be considered when structuring the significant design elements. Each element shall be assigned a responsible person, design content, input data, planning constraints, and performance conditions. The input data specific to each element shall be reviewed to ensure consistency with requirements. Design and development tasks to be carried out shall be defined according to specified safety or functional objectives of the product in accordance with customer and/or regulatory authority requirements, where required.

7.3.2 Design and development inputs

Inputs relating to product requirements are determined and documented according to the Design and Development procedure 67A21868-0004. All inputs are reviewed for adequacy and completeness, and to resolve any ambiguous inputs. Inputs include:

- Functional and performance requirements
- Applicable statutory and regulatory requirements
- Where applicable, information derived from previous similar designs
- Other requirements essential for design and development

7.3.3 Design and development outputs

Outputs of design and development are documented according to the Design and development procedure 67A218686-0004. They are documented in a format that enables verification against the inputs, and are approved prior to release. Output shall:

- Meet the input requirements
- Contain or reference product acceptance criteria
- Specify the characteristics of the product that are essential for its safe and proper use, when required.
- Identify key characteristics, when applicable, in accordance with design or contract requirements
- Identify all pertinent data required for the product (ie drawings, BOMs, processes ,etc)

7.3.4 Design and development review

The design plan specifies stages of the product to conduct design and development review. Reviews take place according to the design and development procedure; results of design are recorded in minutes of the design review meetings which are maintained as a quality record. Participants shall include representatives of functions concerned with the design and development stage(s) being reviewed. The design reviews:

- Evaluate the results of design and development activities and determine if they fulfill requirements
- Identify any problems and purpose necessary actions
- Authorize progression to the next stage

7.3.5 Design and development verification

Design verification is planned and performed to ensure that the design and development output have satisfied the design and development input requirements. Records of the results of the verification and any necessary actions are maintained according to the design and development procedure 67A21868-0004. Design and/or development verification may include activities such as:

- Performing alternative calculations
- Comparing the new design with a similar proven design
- Undertaking test and demonstrations
- Reviewing the design stage documents before release

7.3.6 Design and development validation

Design and development validation is performed according to the design plan to ensure that the resulting product is capable of fulfilling the requirements for the specified or known intended use or application. Validation is completed prior to delivery whenever practicable. Records of the validation activities are maintained according to the design and development procedure. At the completion of the design and/or development, the organization shall ensure that reports, calculations, test results, etc. demonstrates that the product definition meets the specification requirements for all operational conditions.

NOTES:

Design and/or development validation follows design and/or development verification.
Validation is normally performed under defined operating conditions
Validation is normally performed on final product, but may be done at earlier stages
Multiple validations may be performed, when necessary

Where testing is necessary for verification and validation, these tests shall be planned, controlled, reviewed and documented to ensure and prove the following:

- Tests or specifications identify the product being tested and the resources being used, define test objectives and conditions, parameters to be recorded, and relevant acceptance criteria
- Test procedures describe the method of operation, the performance of the test, and the recording of results
- The configuration of the product
- The requirements of the test procedure are observed
- The acceptance criteria are met

7.3.7 Control of design and development changes

The design and development procedure defines a process for identifying, recording, verifying, validating and approving design changes. The review of design and development changes includes an evaluation of the effect of the changes on constituent parts and delivered product. When required by contract, the customer and/or regulatory authority shall approve change. Records are maintained to show the results of the review and any necessary actions identified during the review.

7.4 Purchasing

7.4.1 Purchasing process

A documented procedure 67A21868-0006 is followed to ensure that purchased product conforms to the specified requirements. The procedure outlines the extent of control required for suppliers. Suppliers are evaluated and selected based on their ability to supply product in accordance with requirements as outlined in the procedure. Criteria for selection, evaluation and re-evaluation are documented in the procedure. Records of the evaluation and any necessary actions are maintained as quality records.

Signal Technology purchasing includes

- An approved vendor list
- Supplier performance index used to evaluate suppliers performance
- Issue supplier corrective actions to address supplier not meeting requirements
- Ensuring that the organization and suppliers use customer approved sources, when required
- Ensure that the function having responsibility for approving supplier has authority to disapprove

7.4.2 Purchasing information

Purchasing information describes the product to be purchased, including where appropriate:

- Requirements for approval of product, processes and equipment
- Requirements for qualification of personnel
- Quality management system requirements
- The name or other identification and applicable issues of specifications, drawings, process requirements inspection instructions and other relevant technical data
- Requirements for design, test, examination, inspection and related instructions for acceptance by the organization
- Requirements for test specimens for design approval, inspection investigation or auditing
- Requirements relative to supplier notification to the organization of non-conforming product and/or process definition and where required, obtain approval
- Requirements to notify the organization of changes in product and/or process and, where required, obtain approval
- Right of access by the organization, the customer and regulatory authorities to facilities and records
- Require suppliers to flow down to sub-tier suppliers the applicable requirements in the purchasing documents, including key characteristics where required.

The purchasing documents are reviewed to ensure the adequacy of requirements before orders are placed with the supplier.

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7.4.3 Verification of purchased product

The Inspection and testing procedure 67A21868-0010 describes the process used to verify that purchased product meet specified purchase requirements. If Signal Technology, Arizona Operation or the customer will perform verification at the supplier's premises, the verification arrangements and method of product release are documented in the purchasing information.

Verification activities may include

- Obtaining objective evidence of the quality of the product from suppliers
- Inspection and audit at supplier's premises
- Review of the required documentation
- Inspection of products upon receipt
- Delegation of verification to the supplier, or supplier certification

Purchased product shall not be used or processed until it has been verified as conforming to specified requirements unless it is released under positive recall procedure

Where the organization utilizes test reports to verify purchased product, the data shall be acceptable per the applicable specification. Test reports for raw material shall periodically be validated.

In the event that the supplier has been delegated to perform verification, the requirements for delegation shall be defined and record of delegation maintained.

When required by contract, the customer shall be afforded the right to verify product conformance at the supplier's premises, or at Signal Technology's premises. Verification by the customer shall not be used as evidence of effective control by the supplier and shall not absolve Signal Technology of the responsibility to provide acceptable product.

7.5 Production and service provisions

7.5.1 Control of production and service provisions

Signal Technology, Arizona Operation plans and carries out production and service provision under controlled conditions according to documented procedure 67A21868-0009. Controlled conditions include as applicable"

- The availability of information that describes the characteristics of the product
- The availability of work instructions
- The use of suitable equipment
- The availability and use of monitoring and measuring devices
- The implementation of monitoring and measurement
- Accountability for all product during manufacture
- Evidence that all manufacturing and inspection operations have been completed as planned, or as otherwise documented and authorized
- Provisions for the prevention, detection, and removal of foreign objects
- Monitoring and control of utilities to the extent that they affect product quality
- Criteria for workmanship

7.5.1.1 Production Documentation

Travelers are used as the main production documentation and assure that production operations are carried out in accordance with approved processes and procedures. The traveler is the process flow, including inspection operations, and any specific instructions. Where required specific tools or machine programs are included.

7.5.1.2 Control of production process changes

Changes affecting processes, production equipment, tools and programs shall be documented. Changes are controlled in accordance with 67A21868-0005. Changes are assessed to confirm that the desired effect has been achieved without adverse effects to product quality. When required by contract, customer and/or regulatory acceptance shall be obtained.

7.5.1.3 Control of Production equipment

Production equipment, tools, and programs shall be validated prior to use and maintained and/or inspected periodically according to documented procedures. Validation prior to production use shall include, when required, verification of the first article produced to the design data/specification.

7.5.1.4 Control of Transferred work

When planning to temporarily transfer work to location outside the organization facilities, the organization shall define the process to control and validate the quality of the work.

7.5.2 Validation of processes for production and service provisions

Signal Technology, Arizona Operation validates any processes for production and service provision where the resulting output cannot be verified by subsequent monitoring or measurement. This includes any processes where deficiencies become apparent only after the product is in use. Validation demonstrates the ability of these processes to achieve planned results.

Signal Technology Arizona Operation has documented the process validation including:

- Defined criteria for review and approval of the process, including qualification and approval of special processes prior to use
- Approval of equipment and qualification of personnel
- Use of specific methods and procedures, control of the significant operations and parameter of special processes in accordance with documented process specifications
- Requirements for records
- Revalidation

7.5.3 Identification and traceability

Signal Technology Arizona Operation identifies the product throughout product realization according to the Identification and traceability procedure 67A21868-0008. Product is identified with respect to monitoring and measurement requirements.

Signal Technology controls and records the unique identification of the product wherever traceability is a specified requirement.

7.5.4 Customer property

Signal Technology exercises care with customer property while it is under the organization's control or being used. A procedure 67A21868-0007 outlines the identification, verification protection and safeguarding of customer property provided for use, property may include intellectual property as defined in AS9100. If any customer property is lost damaged or otherwise found to be unsuitable for use, this is reported to the customer and records are maintained.

7.5.5 Preservation of product

Signal Technology preserves the conformity of product during internal processing and delivery to the intended destination per procedure 67A21868-0015. This procedure includes identification, handling, packaging, storage and protection. Preservation also applies to the constituent parts of product. When required by contract, preservation may include documents required to accompany the product shall be present and are protected against loss and deterioration. Preservation of product shall include, where applicable, provisions for

- Cleaning
- Prevention, detection and removal of foreign objects
- Marking and labeling including safety warnings
- Shelf life control
- Special handling for hazardous materials

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7.6 Control of monitoring and measuring devices

Signal Technology has determined the monitoring and measurement to be undertaken and the monitoring and measuring devices needed to provide evidence of conformity of product to determined requirements. A documented procedure 67A218186-0011 outlines the process used to ensure that monitoring and measurement to be carried out in a manner that is consistent with the monitoring and measurement requirements. Monitoring and measuring devices include, but are not limited to : test hardware, test software, automated test equipment and plotters used to produce inspection data. This includes customer supplied equipment used to provide evidence of product conformity. This procedure includes records of processes employed, including details of equipment type, unique identification, location, frequency of checks, check method, environmental controls and acceptance criteria. Where necessary to ensure valid results, measuring equipment is:

- Calibrated or verified at specified intervals, or prior to use, against measurement standards traceable to international or national measurement standards
- Adjusted or re-adjusted as necessary;
- Identified to enable the calibration status to be determined;
- Safeguarded from adjustment that would invalidate the measurement results;
- Protected from damage and deterioration during handling, maintenance and storage
- Defined recall method

In addition Quality Assurance assesses and records the validity of the previous measuring results when equipment is found not to conform to the requirements. Signal Technology takes appropriate action on the equipment and any product affected. Records of the results of calibration and verification are maintained.

When used in monitoring and measurement of specified requirements, the ability of computer software to satisfy the intended application is confirmed. This shall be undertaken prior to initial use and reconfirmed as necessary.

8.0 Measurement, Analysis and Improvement

8.1 General

Signal Technology has plans and implements the monitoring, measurement, analysis and improvement processes as needed

- To demonstrate conformity of the product
- To ensure conformity of the quality management system and
- To continually improve the effectiveness of the quality management system

These processes are identified in documented procedures and include determination of applicable methods, including statistical techniques, and the extent of their use. When contractually required these methods may include

- Design verification
- Process control
- Selection and inspection of key characteristics
- Process capability measurements
- Statistical process control
- Design of experiment
- Inspection (matching sampling rate to the criticality of the product and to the process capability)
- Failure mode and effect analysis

8.2 Monitoring and Measurement

8.2.1 Customer Satisfaction

As one of the measurements of performance of the quality management system, Signal Technology monitors information relating to customer perception as to whether the organization has fulfilled customer requirements. The method for obtaining and using this information is identified in the Corrective and Preventive action procedure 67A21868-0010 and the management responsibility procedure 67A21868-0001.

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8.2.2 Internal Audit

Signal Technology conducts internal audits at planned intervals to determine whether the quality management system

- Conforms to the planned arrangements (see 7.1), to the requirements of the international standard and to the quality management system requirements established by the organization
- Is effectively implemented and maintained

An audit program has been designed and implemented and identifies an audit schedule based on the importance of the areas to be audited, as well as results of previous audits. The audit criteria, scope, frequency, methods, responsibilities and requirements, for planning and conducting audits, and for reporting and maintaining results, are defined and documented in the Internal audit procedure 67A28168-0017.

The management responsible for the area being audited is responsible for ensuring that actions are taken without undue delay to eliminate detected nonconformities and their causes. Follow-up activities include the verification of actions taken and the reporting of verification results.

8.2.3 Monitoring and measurement of processes

Signal Technology applies suitable methods of monitoring and, where applicable, measurement of the quality system processes. These methods demonstrate the ability of the processes to achieve planned results. When planned results are not achieved, correction and corrective action is taken, as appropriate, to ensure conformity of the product. The process of identifying and carrying out the required monitoring and measuring processes is documented in the monitoring, measuring, and analysis of product realization processes 67A21868-0020 and management responsibility procedure 67A21868-0001. In the event of process non-conformities the organization takes appropriate action to correct the non-conforming process, evaluate whether the process non-conformity has resulted in product non-conformity and identify and control the non-conforming product.

8.2.4 Monitoring and measurement of product

Signal Technology monitors and measures the characteristics of the product to verify that product requirements are fulfilled. This is carried out at appropriate stages of the product realization process identified in the Design control procedure 67A21868-0004.

When key characteristics have been identified they shall be monitored and controlled. When sampling inspection is used for product acceptance, the plan shall be statistically valid and appropriate for use. The plan shall preclude the acceptance of lots whose samples have known non-conformities. When required, the plan shall be submitted for customer approval. Product shall not be used until it has been inspected or otherwise verified as conforming to requirements, except when released under positive recall procedures.

Evidence of the conformity with the acceptance criteria is maintained. Records indicate the person authorizing release of product. Product release does not proceed until all planned arrangements have been satisfactorily completed, unless otherwise approved by a relevant authority, and where applicable the customer.

8.2.4.1 Inspection documentation

Inspection documentation is included in all production documentation, including but not limited to receiving inspection, final inspection and production test and inspection. Records of inspections may include, such items as:

- Acceptance and rejection criteria (may be reference drawings)
- Sequence of measurement or testing operations
- Records of results (i.e. Stamp, signature, initials, etc)
- Specific instructions, as required

8.2.4.2 First Article inspection

When required by contract, first article inspection shall be performed. First article inspections shall include inspection of a representative item(s) from the first production run of a new part, or from subsequent change that invalidates the previous first article.

8.3 Control of nonconforming product

Signal Technology ensures that product which does not conform to product requirements is identified and controlled to prevent its unintended use or delivery. The controls and related responsibilities and authorities for dealing with nonconforming product are defined in the control of nonconforming product procedure 67A21868-0013. Non-conforming product includes product returned from the customer. The procedure includes the responsibility and authority for review and disposition of non-conforming product. When required by contract, customer approval shall be obtained prior to dispositioning product as use-as-is or repair. Product disposition as scrap shall be conspicuously and permanently marked, or positively controlled until physically rendered unusable. Records of non-conformities and any subsequent actions taken, including concessions obtained are maintained. When nonconforming product is detected after delivery, the organization takes action appropriate to the effects of the nonconformity. This includes timely reporting of product nonconformity that may affect reliability or safety. Notification includes a description of the non-conformity, including part affected, part number, quantities and date delivered. Notifications shall include suppliers, internal organization, customers, distributors, and regulatory authorities, as necessary

8.4 Analysis of data

Signal Technology determines, collects and analyses appropriate data to demonstrate the suitability and effectiveness of the quality management system and to evaluate where continual improvement of the quality system can be made. The process of determining, collecting and analyzing this data is defined in the management responsibility procedure 67A21868-0001, and the statistical techniques procedure 67A21868-0020. Appropriate data includes data generated as a result of monitoring and measurement and from other relevant sources.

The analysis of data provides information relating to

- Customer satisfaction
- Conformance to product requirements
- Characteristics and trends of processes and products including opportunities for preventive action
- Suppliers

8.5 Improvement

8.5.1 Continual improvement

Signal Technology continually improves the effectiveness of the quality management system through the use of the quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions and management review.

8.5.2 Corrective action

Signal Technology takes action to eliminate the cause of nonconformities in order to prevent recurrence. Corrective actions are appropriate to the effects of the nonconformities encountered.

A documented procedure 67A21868-0014 defines requirements for

- Reviewing non-conformities (including customer complaints)
- Determining the causes of non-conformities
- Evaluating the need for action to ensure that non-conformities do not recur
- Determining and implementing action needed
- Records of the results of action taken and
- Reviewing corrective action taken
- Vendor corrective action, as required
- Specific actions where timely and/or effective corrective actions are not achieved

8.5.3 Preventive action

Signal Technology determines action to eliminate the causes of potential non-conformities in order to prevent their occurrence. Preventive actions are appropriate to the effects of the potential problems.

A documented procedure 67A21868-0014 defines requirements for:

- Determining potential non-conformities and their causes
- Evaluating the need for action to prevent occurrence of non-conformities
- Determining and implementing action needed
- Records of results of action taken
- Reviewing preventive action

APPENDIX A

QUALITY OBJECTIVES

The Quality objectives are the responsibility of senior management. They may appoint representatives from every discipline to monitor report and react to these improvement goals

CHART FACTORY YIELDS, MONITOR AND SET IMPROVEMENT OBJECTIVES

CHART CYCLE TIME, MONITOR AND SET IMPROVEMENT OBJECTIVES

MEASURE QUALITY SYSTEM EFFECTIVELY BY MEASURING THE FOLLOWING:

VALUE ADD SALES/EMP CHART AND SET IMPROVEMENT GOALS

CUSTOMER SATISFACTION SHALL BE MONITORED AND MEASURED USING THE FOLLOWING: MARKETING STOP LIGHT CHARTS AND SET IMPROVEMENT GOALS

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