

ASTONICS Quality Assurance Manual

Introduction

Astonics is an Electro Mechanical Components Distributor, Small Business, Woman Owned, located at 2142 West, 850 North, Suite 103, Cedar City, UT 84720.

Astonics quality assurance system is IAW MIL-I-45208 and ISO9002 with the goal of registration by the end of the year 2002. Written procedures are established for implementing the policies described herein.

Astonics' Quality policy is to listen to our customer's requests and respond with quality products and technical expertise to satisfy their need for Value, Reliability and Superior Customer Service.

Astonics quality objective is to meet or exceed our customer expectations by providing quality products and services, on time, at the right price.

It is required that all employees participate within the Quality Policy.

This policy has been formulated by the President of Astonics. The policy is issued and discussed with all existing and new employees. The policy is posted in areas throughout the company.

Approved by:

_____ Date _____

President

_____ Date _____

Quality Assurance Director

Revision History

This Quality Manual Supercedes all previously approved Quality Assurance Manuals.

Original	26 June 2000
Revision A	14 January 2002, updated address and quality policy.

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0.10 Scope

This quality manual describes the quality control system of Astonics, as required by the ISO 9002 standard. It exclusively covers all connectors assembled and supplied by the Cedar City, UT location.

0.20 Distribution and Manual Control

Controlled copies of this manual are provided to the manager of each department (see Table 1). These are stamped "CONTROLLED COPY" in red ink and have a copy number assigned to each. Copies of this manual may be photocopied and sent to our customers upon request, the cover sheet will have the words "uncontrolled copy", they will not be included on the Distribution List and do not require Revision Control.

Table 1. Distribution List

Title	Department	Copy #
President	Management	1
Quality Director	Quality	2

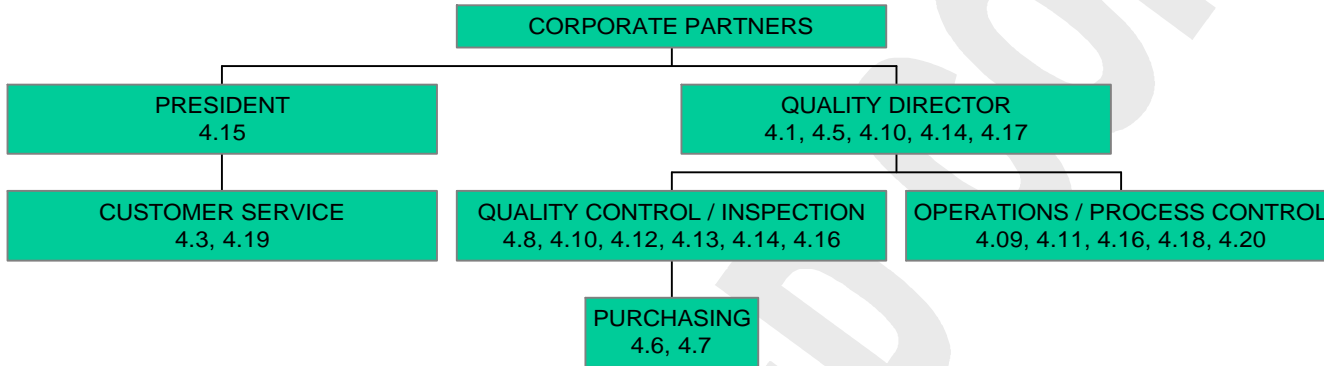
0.30 Quality Policy and Objective

Astonics' Quality Policy is to listen to our customer's request and respond with quality products and technical expertise to satisfy their need for Reliability, value and Superior Customer Service.

Astonics quality objective is to meet or exceed our customer's expectations by providing quality products on time at the right cost.

It is required that all employees participate within the Quality Policy. This policy is posted in the work areas and every employee has read and signed a copy, which is in their training file.

0.40 Responsibility Organizational Chart



SECTION 1

MANAGEMENT RESPONSIBILITY

Company Policy

The President is ultimately responsible for establishing, implementing and maintaining the quality system. Specific responsibilities comprise: formulating the quality policy, defining the organization, assigning authorities and responsibilities, periodically reviewing the quality system, and making available the resources and personnel necessary to maintain the system.

1.0 Management Representative

1.1 The President appoints the Quality Control Director as the Management Representative. He or she has the authority and responsibility to ensure that the quality system is maintained and its efficiency is continuously improved, and that the system always complies with the requirements of MIL-I-45208 and the ISO 9002 standard.

2.0 Organization

2.1 Interrelation of personnel who manage, perform and verify work affecting quality, are defined on the organization chart above.

2.2 The Astonics quality organization comprises 3 departments:

- Customer Service Department
- Quality Control / Inspection Department
- Operations / Process Control

The President and the department head constitute the executive Management.

3.0 Responsibilities

3.1 President

- Formulates the quality policy
- Initiates and supervises the quality system
- Provides resources necessary to maintain the system
- Conducts management reviews of the quality system

3.1.1 Operations

- Defines workmanship standards
- Follows up on Corrective and Preventive Actions
- Controls and monitors processes
- Maintains production equipment
- Administrates storage areas
- Determines productions personnel and equipment requirements
- Verifies quality and quantity of received goods
- Supervises shipping
- Maintains and calibrates measuring and test equipment
- Cares for building

3.2 Quality Control

- Establishes and maintains the quality management system
- Initiates requests for Corrective Actions
- Assists with supplier quality surveys and audits
- Performs inspection & testing in accordance with the quality plan
- Handles nonconforming products
- Maintains inspection record
- Responds to customer comments
- Verifies quality and quantity of received goods
- Monitors and assesses supplier performance
- Records management review minutes
- Prepares agenda

3.3 Customer Service

- Reviews Customer Specifications and delineates information as required
- Advertises and promotes company's products emphasizing their quality aspects and timely deliveries and value
- Provides quotation in a timely manner
- Provides customer liaison, service
- Handles customer comments
- Tracks customer supplied performance measurements

4.0 Management Review

4.1 The company's executive management, reviews the quality system at least once a year. Quarterly reports are merged to show any trends developing or any repeating problems that need to be addressed. The purpose of the review is to assess the effectiveness and continuing suitability of the quality system. The President is responsible for scheduling and conducting the reviews. Conclusions of the reviews are recorded and kept in accordance with procedure #4.1.

SECTION 2

QUALITY SYSTEM

Company Policy

Astonics has a documented and implemented quality management system that satisfies the requirements of MIL-I-45208 and IAW ISO9002. The quality system is documented in the quality manual, procedures, process flow charts, company technical standards, national and international standards, and the production and quality plans. Effectiveness of the quality system is regularly audited and reviewed.

1.0 Quality System Scope

1.1 Scope of the quality system is defined in the following documents

- Quality Manual
- Procedures
- Work Instruction
- Customer technical specifications and drawings
- Production and Quality Plan
- ISO9002 current revision

1.2 The documents collectively define a quality system IAW MIL-I-45208 and of ISO 9002 current revision.

2.0 Quality System Implementation

2.1 All personnel are responsible for implementing the quality system. The Quality Director is responsible for coordinating, monitoring and assisting in auditing the system.

2.2 Implementation of the quality system is assessed regularly by way of internal and external audits and management reviews. (See procedures 4.17 Auditing and 4.1 Management Review.)

3.0 Quality Plan

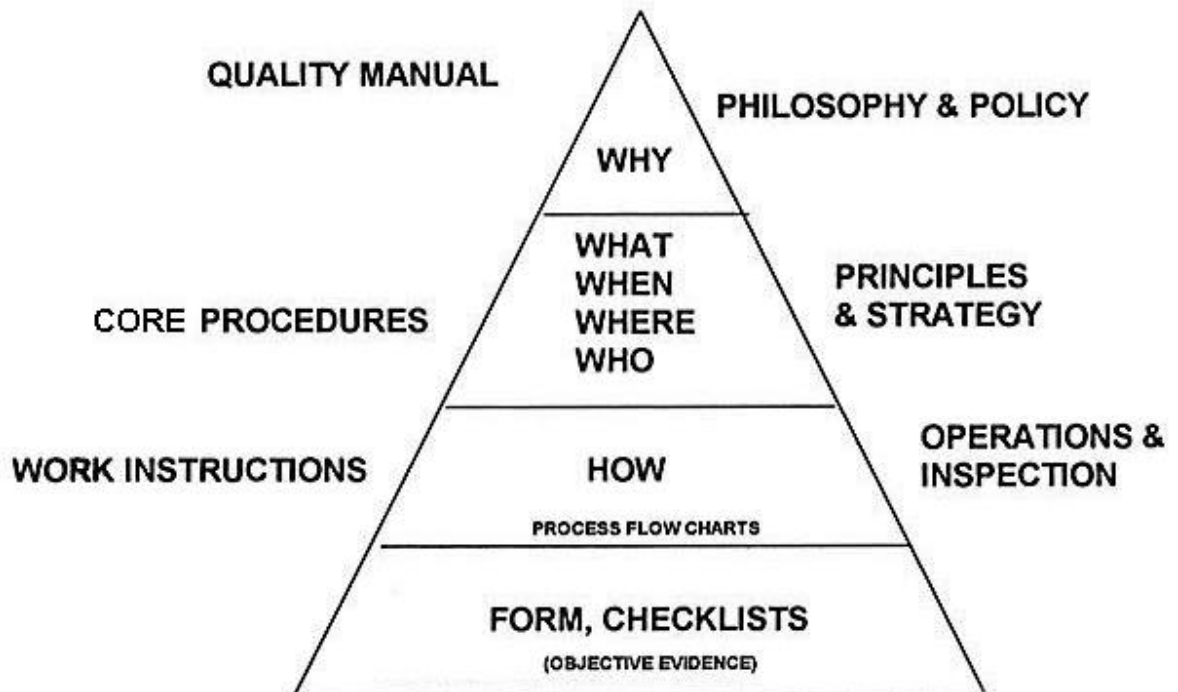
3.1 The purpose of production and quality plans are to sequence and coordinate production operations and define equipment to be used and reference any specifications needed for production. Quality plans define the inspection/testing points and methods and they reference specific inspection instructions and acceptance criteria.

3.2 These plans are primarily documented on the Work Order and Instruction Sheet. The Work order and inspection checklists define all production and inspection steps required for that product.

4.0 Business scope description

4.1 Value Added Distributor of Electrical Connectors, servicing the Military and Commercial Aerospace Industry, and providing routine deliveries of stocked items within 48 hours.

QUALITY DOCUMENTATION PYRAMID



SECTION 3

CONTRACT REVIEW

Company Policy

All orders are reviewed to assess if the customer's requirements are adequately defined and are well understood, and if the company has the capacity to meet the contract or quote requirements. See procedure #4.3.

1.0 Application

1.1 There is a system for contract reviews. It is applicable to the customer's requirements. The customer service department is responsible for conducting contract reviews for all orders.

2.0 Scope of Review

2.1 The contract review comprises of verification that the customer's requirements are adequately defined, documented, well understood and that the company has the capacity to meet the contract requirements.

3.0 Record

3.1 The customer service department conducts contract reviews and makes a record of each review. The record is made by entering the sales order. This order release includes the information needed by the Operations Department.

SECTION 4

DESIGN CONTROL

Company Policy

Due to the fact that Astonics does not design any of its products, this section does not apply. All products are designed prior to us receiving the order.

SECTION 5

DOCUMENT CONTROL

Company Policy

The purpose and scope of quality system documents is defined. All documents are reviewed and approved prior to issue. Appropriate documents are available at locations where they are intended to be used. Obsolete documents are removed from points of use and retained in accordance with procedure 4.5. The Quality Control Manager is responsible for coordination and enforcing the document control related activities in accordance with procedure 4.5.

1.0 Controlled Documentation

1.1 Quality system documentation comprises the following types of documents:

- 1.1.1 Quality Manual
- 1.1.2 Procedures
- 1.1.3 Work Orders / Flow Charts / Instruction sheets
- 1.1.4 Related Forms

2.0 Customer Related Documentation

2.1 These documents are comprised of:

- 2.1.1 Customer drawings and specifications
- 2.1.2 Customer Purchase Order
- 2.1.3 Customer supplied electronic data

2.1 Document Approval Issue

2.1 Documents and document changes are initialized by management. All documents are reviewed and approved prior to issue. The Quality Manager maintains a master file of all documents. The master list is comprised of the document, revision, status, release date, change date and the location(s) of the documents.

2.2 Documents are distributed to personnel and locations where they are used. When appropriate and relevant, documents display an approval list.

3.0 Document Changes

3.1 Document changes are reviewed and authorized by the same authority that issued the original document. Revised portions of documents are distributed with a change brief, and obsolete documents are removed. The Quality Manager maintains a master list specifying the latest issues and revisions of its documents.

SECTION 6

PURCHASING

Company Policy

The company assesses its suppliers and subcontractors and purchases only from those that can satisfy the company's quality requirements. Purchasing documents clearly and completely describe ordered products, including quality requirements. Purchasing documents are approved prior to release. See procedure 4.6 and 4.6.1 current revision.

1.0 Responsibility

1.1 It is the Quality Manager who is responsible for maintaining this system.

2.0 Assessment of Suppliers

2.1 Suppliers are defined as vendors who will deliver their products in accordance with a purchase order.

2.2 Assessment of suppliers are carried out by the Quality Manager.

2.3 Quality performance of all suppliers is monitored. Suppliers showing inadequate performance are asked to implement corrective actions and are discontinued if there is no improvement. (See procedure for Approved Supplier List #4.6.1)

2.4 The Quality Manager maintains an approved supplier list. Orders that affect quality may only be placed with suppliers on that list.

3.0 Purchasing Data

3.1 Purchase requisitions are prepared by the person requesting supplies. The documents clearly and completely describe requested products. They include precise identification of the products, reference applicable standards and state quality requirements.

4.0 Verification of Purchased Product

4.1 Company's customers are normally given the right to verify for themselves that the purchased products conform to specified requirements. Customer verification does not absolve the company from responsibility to deliver a quality product.

SECTION 7

PURCHASER SUPPLIED PRODUCTS

Astonics does not use Purchaser supplied products this section does not apply

SECTION 8

PRODUCT IDENTIFICATION AND TRACEABILITY

Company Policy

Materials and products are identified by a part number correlated to corresponding drawings, specifications and other technical documents.

1.0 Product Identification

1.1 All assembled parts are identified in accordance with vendor supplied requirements. This normally includes the Part Number, Date Code, and the Astonics Mint mark, this is controlled by the Work Instructions.

2.0 Record

2.1 Customer Service maintains the part number lists and associated technical documentation. The job number of a product is the key to correlation with its parts lists, technical documentation and quality records.

3.0 Reference Procedures

3.1 Activities pertaining to this section of the quality system are regulated by Product Identification and Traceability procedure 4.8.

SECTION 9

PROCESS CONTROL

Company Policy

Production and individual operations are planned and documented. Personnel are provided with work instructions and workmanship criteria. Production and process equipment is regularly checked and maintained, per the Preventive maintenance manual. Production areas are clean and provide a suitable work environment.

1.0 Production Plan

1.1 The production plan is specified on a Work Order.

1.2 All production and inspection operations necessary to assemble, verify, and ship a product are listed in the Work Order and Inspection Checklists.

SECTION 10

INSPECTION AND TESTING

Company Policy

Inspection is conducted when purchased materials are received, at significant stages of assembly, and prior to shipping finished products. The objective of inspections is to verify conformance with specified requirements. Materials and products are prevented from being used or shipped until the required inspections are completed. Records of inspections are established and maintained as evidence that products comply with stated requirements.

1.0 Receiving Inspection

1.1 Purchased products are subjected to receiving inspection, per procedure 4.10. Receiving inspection may be waived if the supplier is approved as Dock to Stock. Only the Quality Director can approve the Dock to Stock status of a supplier.

2.0 In-Process Inspections

2.1 In-Process inspections are specified on a work order accompanying a product during its assembly. The inspections are carried out by the Operator, per procedure 4.10 All activities related to the in-process inspections are regulated by the Quality Control Department. Procedure 4.13 describes the method used to handle any nonconformities found.

3.0 Final Inspection

3.1 Only those products that pass the final inspection (procedure 4.10) are admitted to the shipping area and can be shipped. Performing and recording the final inspection is regulated by the Quality Control Department. Nonconformities are handled in accordance with procedure 4.13.

4.0 Inspection and Test Records

4.1 All three types of inspections are recorded and signed off by the personnel performing the inspections. Rules for establishing the inspection records are described in procedure 4.10.

4.2 All Astonics assembled products are subjected to a final inspection prior to shipment. A final checklist is completed for every job.

SECTION 11

INSPECTION, MEASURING, AND TEST EQUIPMENT

Company Policy

The required measurements accuracy is known, and appropriate equipment is selected to perform the measurements. All measuring and test equipment is calibrated with traceability to a national standard. Calibration certificates are maintained and the calibration status of measuring equipment is identified. The equipment is well maintained and its placement and uses are controlled.

1.0 Measurement Identification

1.1 Selection of suitable equipment, or organization to perform those measurements is the responsibility of the Quality Control Department.

2.0 Calibration and Maintenance of Equipment

2.1 All measurement equipment used is calibrated with traceability to national standards. Calibration status of equipment is identified by calibration stickers. The Quality Director maintains Equipment list and calibration status for each piece of equipment. Equipment is maintained to preserve its accuracy and fitness for use in accordance with procedure 4.11.

SECTION 12

INSPECTION AND TEST STATUS

Company Policy

Inspection and test status of a product is identified to assure that only product that has passed inspection is to be processed or shipped. Authority responsible for the release of confirming products is defined.

1.0 General

1.1 Work Orders and process flow charts prevent product from being used or dispatched before it passes the prescribed inspections.

2.0 Identification system

2.1 Products that pass the receiving inspections are moved to the correct department.

2.2 Status of an in-process inspection is identified on work order accompanying the product.

2.3 Products that pass the final inspection are identified by a Quality Control inspector signing or stamping and dating final inspection checklist, Work order, and certificate of compliance.

2.4 Products that fail any one of the Quality Control inspections are segregated and placed in the hold area for disposition per Procedure #4.13.

3.0 Authority to Release Product

3.1 The Quality Control inspector performing the final inspection has the authority to release the product for shipment. Product inspected, signed and dated by the inspector on the final checklist is evidence that the product has been released for shipment. (See procedure 4.10.)

SECTION 13

CONTROL OF NONCONFORMING PRODUCT

Company Policy

Nonconforming product is identified, documented, evaluated, and prevented from being used or shipped. Responsibility for disposition of nonconforming product is defined and, when required, the customer is contacted for advisement.

1.0 Identification and Documentation

1.1 It is a firm policy to identify and document all nonconforming products.

1.2 Documentation of a nonconformity is made on the MDR, following the rules provided in the Nonconforming Product procedure 4.13. Scrapped products are discarded or returned to supplier.

2.0 Nonconformity Review and Disposition

2.1 QC Director, or President makes the disposition decision for a nonconforming product when it is obvious that the product must be scrapped, reworked, or if it can be repaired by a simple process without affecting its quality. In all other cases, it is the Quality Control Manager together with the President that makes the disposition decision.

2.2 The disposition decision may be:

- Rework or Repair
- Use as is
- Scrap
- Return to Vendor

2.3 When required, the customer is contacted for advisement or acceptance of a discrepant product.

2.4 Detailed rules for nonconformity review, making the disposition decision and recording these activities are provided in the Nonconforming material procedure 4.13.

3.0 Reinspection

3.1 Repaired or reworked products are reinspected in accordance with the instructions on the MDR.

SECTION 14

CORRECTIVE & PREVENTIVE ACTION

NOTE:

The company recognizes that diligent and effective implementation of this corrective action policy is crucial to the success of the quality system.

Company Policy

Procedures, work instructions, quality records, quality reports, internal audits and customer comments are analyzed to detect any sources of potential quality problems. Causes of nonconformities are investigated and corrective actions are requested to prevent recurrence. Controls are applied to ensure implementation and effectiveness.

1.0 Initiation of Corrective Action

1.1 Anyone in the company may propose initiation of a corrective action, but only the quality department can assign a corrective action.

1.2 Corrective actions are initiated as a result of

- Identification of product nonconformity causing excessive rework
- Noncompliance observed during audits
- Customer complaints or recommendations

1.3 Action items stemming from any training meetings or Management Review Meetings will be assigned as needed. Some examples are:

- Process Quality Problems
- Nonconformities from a supplier / subcontractor
- Quality Reports

1.4 Use of Preventive Action is done by analyzing information from process work instructions, audit results, quality records and customer comments. By the proper use of this information we can reduce or eliminate potential nonconformities.

2.0 Follow Up

2.1 Each corrective action is entered onto a spreadsheet that is used to decide the follow up as determined by Management Review.

2.2 Corrective actions are reviewed by management review monthly for effectiveness. (See procedure 4.14.)

SECTION 15

HANDLING, STORAGE, PACKAGING, PRESERVATION AND DELIVERY

Company Policy

Methods and means of handling that prevent product damage and / or deterioration are provided. Packaging is specified and controlled. Products are protected prior to and during delivery.

1.0 Handling

1.1 Operations is responsible for product handling and ensuring that equipment is clean, adequate and well maintained. Other responsibilities are making sure operators are trained and that products are protected during production, storage and delivery.

2.0 Storage

2.1 The storage areas and their operations are the responsibility of the President. Only products that are properly identified are authorized to enter and leave the storage areas.

3.0 Preservation

3.1 Any product at Astonics will be handled and package to preserve them. While in the company, an area will be designated to use to prevent deterioration or loss.

4.0 Packaging and Delivery

4.1 Customer preferred ship method is recorded on the sales order, if available. If the information is not available, UPS ground is used. Any required Special packaging is specified by Customer Service on the sales order. Regular packaging will be done in accordance with 4.15. The specifications are communicated to the shipping personnel in the form of notes on the Sales Order. Packaging is designed for the intended means of delivery.

SECTION 16

QUALITY RECORDS

Company Policy

Quality records demonstrate achievement of the required quality and effective operation of the quality system. The records are identified and stored in a suitable environment to minimize deterioration. Records are normally stored by the department that is responsible for their establishment. Retention periods for quality records are maintained for a minimum of 7 years unless otherwise specified by our customer.

1.0 Procedure

1.1 The activities of identification, collection, filing, storage, maintenance and disposition of quality records are governed by Management. Other procedures that call for establishing of a record explain how it should be done, who is responsible and what rules apply for its filing and storage.

2.0 Identification and Storage

2.1 Records are identified to the product, person or the activity involved. When relevant, they are signed and dated. Records are normally filed by the department that initially established the record. Records are stored in a dry and clean environment. (See procedure 4.16.)

2.2 When requested in some relationships Quality records are given to the customer with a copy of the job folder.

SECTION 17

INTERNAL QUALITY AUDITS

Company Policy

Comprehensive, planned and documented quality audits are carried out at least once a year. Audits are scheduled on the basis of the status and importance of the activity. Identified nonconforming conditions are reported to the internal customer for appropriate action.

1.0 Planning and Scheduling

1.1 The Audit Team establishes an internal audit plan and schedule. Every activity and area is audited at least once a year, but more frequent audits may be scheduled for critical processes of systems.

2.0 Audit Team and Preparation for Audit

2.1 Only personnel independent of the audited activities are assigned to conduct an audit. Audits are prepared by a review of the procedures and the establishment of audit checklists. Selection of an audit team and the preparation activities are described in procedure 4.17.

3.0 Follow Up

3.1 When nonconforming conditions are identified, the internal customer responsible for the affected area or activity is requested to propose and implement a corrective action. Implementation and effectiveness of the action is verified by a follow up audit.

SECTION 18

TRAINING

Company Policy

The company identifies training needs of all personnel and provides the required training. Personnel performing specific tasks are qualified. Records of personnel qualifications are maintained.

1.0 Reference Procedures

1.1 Identifying training needs and providing training is governed in procedure 4.18..

2.0 Training

2.1 The company provides new employee orientation training to all employees. Other training is provided as required.

3.0 Training Record

3.1 The Training Coordinator maintains records of all internal and external training provided to employees.

SECTION 19

SERVICING

Company Policy

Continuous improvement of customer satisfaction is the fundamental core value of our Corporate Mission Statement. The Customer Service department, along with any of the departments, work with the customer to provide a quality product.

1.0 Reference Procedures

1.1 Responsibilities and rules for providing service for the customer is detailed in procedure 4.19.

2.0 Performance and Verification of Service

2.1 Servicing is performed by the Sales Department.

2.2 When a customer calls with a comment, it is written on a customer comment form and follows the procedure.

SECTION 20

STATISTICAL TECHNIQUES

Company Policy

Where and when appropriate, statistical techniques are employed to verify the acceptability of process capability and product characteristics.

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