




**MICROCAST TECHNOLOGIES CORPORATION**  
**QUALITY MANUAL**

Controlled Copy # 1

 <b>Microcast Technologies Corporation</b>		<b>QM Section 0.0 Table of Contents</b>		Page 1 of 1	
Approved By:	Dean Fuschetti, GM Opns	Issue Number:	1		
Approved By:	Steve Fuschetti, GM MIS	Issue Date	8/1/03		

## **Table of Contents**

Table of Contents	Sec. 0.0
Amendment Record	Sec. 0.1
Controlled Circulation List	Sec. 0.2
Quality Policy and Objectives	Sec. 0.3
Introduction	Sec. 0.4
Quality Management System Requirements	Sec. 4
Management Responsibility	Sec. 5
Resource Management	Sec. 6
Product Realization	Sec. 7
Measurement, Analysis and Improvement	Sec. 8
Organizational Chart	Appendix A
Interaction of Processes	Appendix B



Approved By:	Dean Fuschetti, GM Opns	Issue Number:	13
Approved By:	Kasia Kozlowski, MR	Issue Date	10/08/09

SECTION	ISSUE DATE	ISSUE#	DESCRIPTION	APPROVAL
All	8/1/03	All	Initial Manual Release	MR
All	9/30/03	1	Add footer and MTC logo	MR
0.3	9/30/03	1	Add Quality Policy and Quality Objectives	GM & MR
Appendix A	10/13/03	2	Added Microcast's Organizational Chart	GM
Appendix A	11/4/03	3	Updated Organizational Chart per MTC-QD-102, Rev. 2, 11/4/2003	GM
QM Sec 4	11/4/03	2	Added reference to QP VII in 2.1.3	GM
QM Sec 0.3	1/12/04	2	<u>Add new Quality Objective:</u> <i>Achieve 98% supplier on-time delivery.</i> <u>Revise objective concerning product rejects to read:</u> <i>Reduce number of internally generated product defects by half, down to 2.5% (reviewed quarterly).</i>	GM
QM Sec 0.4	3/19/04	2	WAS: Microcast purchases, designs, assembles and machines die cast parts for the cable television, cell phone, telecom, marine, recreational and auto industries. NOW: Microcast's scope of supply is: Die Casting, Injection Molding, Machining, Finishing, Design and Assembly of Purchased and Manufactured components for the Cable Television, Cell Phone, Telecom, Marine, Recreational and Auto Industries. ADDED also SIC: 3089, 3663.	GM
QM Sec 0.3	5/3/05	3	<i>Reduce number of internally generated product defects by half, down to 2.5% (reviewed quarterly).</i> <i>Changed to:</i> <i>"down to 7%".</i> <i>and</i> <i>Achieve 98% supplier on-time delivery</i> <i>Changed to: 90%.</i>	GM

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Approved By:	Dean Fuschetti, GM Opns	Issue Number:	13
Approved By:	Kasia Kozlowski, MR	Issue Date	10/08/09


QM Sec 0.3	6/16/06	4	<p>The following Quality Objectives were changed:</p> <ul style="list-style-type: none"> <li>❖ <i>Reduce number of internally generated product defects to 13% monthly.</i></li> <li>❖ <i>Obtain TL 9000 Certification by the end of 2007.</i></li> </ul>	GM
QM Sec 0.3	11/29/06	5	<p>The following Quality Objectives were changed:</p> <ul style="list-style-type: none"> <li>❖ <i>Reduce number of internally generated product defects to 10% monthly.</i></li> <li>❖ <i>Maintain at least 4.0 average score on Customer Survey Reports.</i></li> <li>❖ <i>Achieve 92% supplier on-time delivery.</i></li> </ul>	GM
QM Sec 0.3	10/19/07	6	<p>The following Quality Objectives were changed:</p> <ul style="list-style-type: none"> <li>❖ <i>Achieve 93% supplier on-time delivery.</i></li> <li>❖ <i>Obtain TL 9000 Certification by the end of 2008.</i></li> </ul>	GM
QM Sec 0.3	10/17/08	7	<p>The following Quality Objectives were changed:</p> <ul style="list-style-type: none"> <li>❖ <i>Achieve 94% supplier on-time delivery.</i></li> <li>❖ <i>Reduce number of internally generated product defects to 5% monthly.</i></li> <li>❖ <i>Obtain TL 9000 Certification by the end of 2009.</i></li> <li>❖ <i>Change to: Constantly reduce number of non-conformities generated during both audits, strive for zero in external audits and maximum three in internal audit.</i></li> </ul>	GM



Approved By:	Dean Fuschetti, GM Opns	Issue Number:	13
Approved By:	Kasia Kozlowski, MR	Issue Date	10/08/09


			❖ <i>New Objective: Reduce the cost of quality to 3%</i>	
QM Appendix B	11/13/08	2	Replaced Interaction of Processes Chart with the new one that is less cumbersome and easier to read.	GM
QM Sec 0.5	11/13/08	2	Changed para 2.7.1 to replace Quality Manager with the Customer Service Manger	GM
QM Sec 0.3	9/14/09	8	The following Quality Objectives were changed: ❖ <i>Obtain TL 9000 Certification by the end of removed.</i> ❖ <i>Maintain at least 4.04 average score on Customer Service Surveys Changed to 4.2</i>	GM
QM Sec 0.1	10/08/09	13	Amended to reflect the requirements of ISO 9001:2008.	MR
QM Sec 0.4	10/08/09	3	Amended to reflect the requirements of ISO 9001:2008.	MR
QM Sec 4	10/08/09	3	Amended to reflect the requirements of ISO 9001:2008.	MR
QM Sec 5	10/08/09	3	Amended to reflect the requirements of ISO 9001:2008.	MR
QM Sec 6	10/08/09	2	Amended to reflect the requirements of ISO 9001:2008.	MR
QM Sec 7	10/08/09	2	Amended to reflect the requirements of ISO 9001:2008.	MR
QM Sec 8	10/08/09	2	Amended to reflect the requirements of ISO 9001:2008.	MR
For details of changes implemented on 10/08/09, see ISO 9001:2008, Appendix B, Table B.1				

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	<b>Microcast Technologies Corporation</b>	<b>QM Section 0.2 Circulation List</b>	Page 1 of 1
Approved By:	Dean Fuschetti, GM Opns	Issue Number:	1
Approved By:	Steve Fuschetti, GM MIS	Issue Date	8/1/03

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	<b>Microcast Technologies Corporation</b>	<b>QM Section 0.3 Quality Policy &amp; Objectives</b>	Page 1 of 1
Approved By:	Dean Fuschetti, GM Opns	Issue Number:	8
Approved By:	Steve Fuschetti, GM MIS	Issue Date	09/14/2009

## QUALITY POLICY

*The management of Microcast Technologies Corporation is committed to meet customer and product requirements and to continually improve the quality management system. This commitment is reflected in the following policy objectives:*

### QUALITY OBJECTIVES

- ❖ *Reduce number of internally generated product defects to 5% monthly.*
- ❖ *Maintain at least 4.2 average score on Customer Survey Reports.*
- ❖ *Constantly reduce number of non-conformities generated during both audits, strive for zero in external audits and maximum three in internal audit.*
- ❖ *Achieve 94% supplier on-time delivery.*
- ❖ *Reduce cost of quality to 3%.*

 <b>Microcast Technologies Corporation</b>	<b>QM Section 0.4 Introduction</b>		Page 1 of 2
Approved By:	Dean Fuschetti, GM Opns	Issue Number:	3
Approved By:	Kasia Kozlowski, MR	Issue Date	10/08/09

### 1.0 Scope of Registration:

Microcast Technologies Corp., inclusive of all activities at the facility in Linden, NJ. Microcast's scope of supply is: Die Casting, Injection Molding, Machining, Finishing, Design and Assembly of Purchased and Manufactured components for the Cable Television, Cell Phone, Telecom, Marine, Recreational and Auto Industries. SIC: 3089, 3663.

### 2.0 Permissible Exclusions:

Microcast excludes itself from ISO 9001:2008 Standard requirements pertaining to:


- 2.1 Post-delivery service requirements within Determination of Requirements Related to Products, Clause 7.2.1a, because the company does not perform any post-delivery services for its customers.
- 2.2 Post-delivery service requirements within Production and Service Provisions, Clause 7.5.1, because the company does not perform any post-delivery services for its customers.

### 3.0 Interaction of Processes:

- 3.1 Refer to Appendix B (Interaction of Processes), and Quality Procedures QP I through QP XIII for a description of the company Quality System processes and the means by which they interact with one another.

### 4.0 Responsibilities and Authorities:

- 4.1 The Quality Management System has been established at the direction of the General Manager of Operations and General Manager of MIS. All responsibilities and authorities of all staff involved in quality related activities are defined in pertinent Procedures.
- 4.2 The Organizational Chart (see Appendix A) identifies the functional areas of Microcast Technologies.
- 4.3 The General Managers have responsibility and authority for all operations within the company.

	<b>Microcast Technologies Corporation</b>	<b>QM Section 0.4 Introduction</b>	Page 2 of 2
Approved By:	Dean Fuschetti, GM Opns	Issue Number:	3
Approved By:	Kasia Kozlowski, MR	Issue Date	10/08/09


**4.4** The designated personnel of each functional area have authority to:

- 4.4.1 Initiate action to prevent the occurrence of any nonconformities relating to the [service] product, process, and Quality System;
- 4.4.2 Identify and record any problems relating to the product, process, and Quality System;
- 4.4.3 Initiate, recommend, or provide solutions to Quality problems, and to access management at any level for which action is required;
- 4.4.4 Verify the implementation of solutions.

## **5.0 Documentation Structure:**

The Quality System documentation defines the organizational structure, responsibilities, procedures, processes and resources for implementing quality management, and which control the way Microcast operates. Documentation complies with ISO 9001:2008. Documentation is recorded in a way to suit the Company's needs to reflect the complexity of particular processes. The company's quality documentation consists of:

- 5.1** *Quality Manual:* First level document that detail company policies towards the requirements of the ISO 9001 standard.
- 5.2** *Procedures:* Second level process-oriented documents that reflect company working practice and the ISO 9001 standard.
- 5.3** *Work Instructions:* Third-level detailed instructions, some of which are Microcast-originated, and some customer-provided.
- 5.4** *Blank Forms:* Third level documents used to record specific, detailed data in relations to the quality system. When completed they contain critical information relating the quality system.

 <b>Microcast Technologies Corporation</b>	<b>QM Section 4 Quality System Requirements</b>	Page 1 of 3	
Approved By:	Dean Fuschetti, GM Opns	Issue Number:	3
Approved By:	Kasia Kozlowski, MR	Issue Date	10/08/09

## 1.0 Scope and Purpose

- 1.1 The quality system described in this section of the QM conforms to the requirements of the standard: Section 4—Quality management system. This policy defines the corporate commitment to quality.


## 2.0 Quality Management System

### 2.1 General requirements:

- 2.1.1 A quality management system has been established, documented, implemented, maintained and is continually improved in accordance with the requirements of ISO 9001: 2008. To implement the system, the organization has:
- 2.1.1.1 Determined the processes needed for the quality management system and their application throughout the organization;
  - 2.1.1.2 Determined the sequence and interaction of these processes;
  - 2.1.1.3 Determined the criteria and methods needed to ensure that both the operation and control of these processes are effective;
  - 2.1.1.4 Ensured the availability of resources and information necessary to support the operation and monitoring of these processes;
  - 2.1.1.5 Monitored, measured where applicable, and analyzed these processes; and,
  - 2.1.1.6 Implemented actions necessary to achieve planned results and continual improvement of these processes.
- 2.1.2 These processes are managed in accordance with ISO 9001: 2008.
- 2.1.3 Outsourced processes that affect product conformity to requirements control is ensured over such processes. The type and extent of control to be applied to these outsourced processes is defined within the quality management system (see QP VII).

### 2.2 Documentation requirements:

- 2.2.1 Quality management system documentation includes:
- 2.2.1.1 Documented statements of a quality policy and quality objectives;
  - 2.2.1.2 A Quality Manual;

 <b>Microcast Technologies Corporation</b>	<b>QM Section 4 Quality System Requirements</b>	<b>Page 2 of 3</b>	
Approved By:	Dean Fuschetti, GM Opns	Issue Number:	3
Approved By:	Kasia Kozlowski, MR	Issue Date	10/08/09

2.2.1.3 Documented procedures and records required by ISO 9001: 2008; and,

2.2.1.4 Documents including records determined by the organization to be necessary to ensure the effective planning, operation and control of processes.

2.2.2 A Quality Manual has been established and maintained that includes:

2.2.2.1 The scope of the quality management system, including details of and justification for any permissible exclusions;

2.2.2.2 The documented procedures established for the quality management system, or reference to them; and,

2.2.2.3 A description of the interaction between the processes of the quality management system.

### 2.3 Control of documents:

2.3.1 Documents and quality records required by the quality management system are controlled.

A documented procedure has been established to define the controls needed to:

2.3.1.1 Approve documents for adequacy prior to issue;

2.3.1.2 Review and update as necessary and re-approve documents;

2.3.1.3 Ensure that changes and the current revision status of documents are identified;

2.3.1.4 Ensure that relevant versions of applicable documents are available at points of use;


2.3.1.5 Ensure that documents remain legible and readily identifiable;

2.3.1.6 Ensure that documents of external origin determined by the organization to be necessary for the planning and operation of the quality management system are identified and their distribution controlled; and,

2.3.1.7 Prevent the unintended use of obsolete documents, and to apply suitable identification to them if they are retained for any purpose.

### 2.4 Control of records:

2.4.1 Records are established to provide evidence of conformity to requirements and of the effective operation of the quality management system and are


	<b>Microcast Technologies Corporation</b>	<b>QM Section 4 Quality System Requirements</b>	Page 3 of 3
Approved By:	Dean Fuschetti, GM Opns	Issue Number:	3
Approved By:	Kasia Kozlowski, MR	Issue Date	10/08/09

controlled.

- 2.4.2 A documented procedure has been established to define the controls needed for the identification, storage, protection, retrieval, retention and disposition of records.
- 2.4.3 Records are legible, readily identifiable and retrievable.

### **3.0 Related and Support Documentation**

- Quality Procedure QP A (Table of Contents)
- Quality Procedure QP I (Quality System Documentation)
- Quality Procedure QP II (Management Responsibility)

 <b>Microcast Technologies Corporation</b>	<b>QM Section 5 Management Responsibility</b>	Page 1 of 3	
Approved By:	Dean Fuschetti, GM Opns	Issue Number:	3
Approved By:	Kasia Kozlowski, MR	Issue Date	10/08/09

## 1.0 Scope and Purpose

- 1.1 The quality system described in this section of the QM conforms to the requirements of the standard: Section 5—Management responsibility. This policy defines the corporate commitment to quality.

## 2.0 Management Responsibility

### 2.1 Management commitment:

- 2.1.1 Top management has provided evidence of its commitment to the development and implementation of the quality management system and continually improving its effectiveness by:


- 2.1.1.1 Communicating to the organization the importance of meeting customer as well as statutory and regulatory requirements;
- 2.1.1.2 Establishing the quality policy;
- 2.1.1.3 Ensuring that quality objectives are established;
- 2.1.1.4 Conducting management reviews; and,
- 2.1.1.5 Ensuring the availability of resources.

### 2.2 Customer focus:

- 2.2.1 Top management has ensured that customer requirements are determined and fulfilled with the aim of enhancing customer satisfaction.

### 2.3 Quality policy:

- 2.3.1 Top management has ensured that the quality policy is:
- 2.3.1.1 Appropriate to the purpose of the organization;
  - 2.3.1.2 Includes a commitment to comply with requirements and continually improve the effectiveness of the quality management system;
  - 2.3.1.3 Provides a framework for establishing and reviewing quality objectives;
  - 2.3.1.4 Communicated and understood within the organization; and,
  - 2.3.1.5 Reviewed for continuing suitability.

	<b>Microcast Technologies Corporation</b>	<b>QM Section 5 Management Responsibility</b>	Page 2 of 3
Approved By:	Dean Fuschetti, GM Opns	Issue Number:	3
Approved By:	Kasia Kozlowski, MR	Issue Date	10/08/09

**2.4 Planning and quality objectives:**

2.4.1 Top management has ensured that quality objectives, including those needed to meet requirements for product, are established at relevant functions and levels within the organization. The quality objectives are measurable and consistent with the quality policy.

**2.5 Quality management system planning:**

2.5.1 Top management has ensured that:

2.5.1.1 The planning of the quality management system is carried out in order to meet the requirements of the general requirements of this international standard (section 4.1); and,

2.5.1.2 The integrity of the quality management system is maintained when changes to the quality management system are planned and implemented.

**2.6 Responsibility and authority:**

2.6.1 Top management has ensured that the responsibilities, authorities and their interrelation are defined and communicated within the organization.

**2.7 Management representative:**

2.7.1 Top management has appointed the Customer Service Manager who, irrespective of other responsibilities, is a member of the management team, and has responsibility and authority that includes:

2.7.1.1 Ensuring that processes needed for the quality management system are established, implemented and maintained;


2.7.1.2 Reporting to top management on the performance of the quality management system, and any need for improvement;

2.7.1.3 Ensuring the promotion of awareness of customer requirements throughout the organization; and,

2.7.1.4 Acting as liaison with external parties on matters relating to the quality system as appropriate.

**2.8 Internal communication:**

2.8.1 Top management has ensured that appropriate communication processes

 <b>Microcast Technologies Corporation</b>	<b>QM Section 5 Management Responsibility</b>	Page 3 of 3	
Approved By:	Dean Fuschetti, GM Opns	Issue Number:	3
Approved By:	Kasia Kozlowski, MR	Issue Date	10/08/09

are established within the organization and that communication takes place regarding the effectiveness of the quality management system.

## 2.9 Management review:

2.9.1 Top management reviews the quality management system at planned intervals to ensure its continuing suitability, adequacy and effectiveness. This review includes assessing opportunities for improvement and the need for changes to the quality management system, including the quality policy and quality objectives. Records of management reviews are maintained.

## 2.10 Management review input:

2.10.1 Input to management review includes information on:

- 2.10.1.1 Results of audits;
- 2.10.1.2 Customer feedback;
- 2.10.1.3 Process performance and product conformity;
- 2.10.1.4 Status of preventive and corrective actions;
- 2.10.1.5 Follow-up actions from earlier management reviews;
- 2.10.1.6 Planned changes that could affect the quality management system; and,
- 2.10.1.7 Recommendations for improvement.


## 2.11 Management review output:

2.11.1 Output from management review includes decisions and actions related to:

- 2.11.1.1 Improvement of the effectiveness of quality management system and its processes;
- 2.11.1.2 Improvement of product related to customer requirements; and,
- 2.11.1.3 Resource needs.

## 3.0 **Related and Support Documentation**

Quality Procedure QP A (Table of Contents)  
Quality Procedure QP II (Management Responsibility)  
Quality Procedure QP III (Resource Management)  
Quality Procedure QP XI (Data Analysis/Quality System Improvement)  
Quality Procedure QP XII (Corrective and Preventive Action)

	<b>Microcast Technologies Corporation</b>	<b>QM Section 6 Resource Management</b>	Page 1 of 2
Approved By:	Dean Fuschetti, GM Opns	Issue Number:	2
Approved By:	Kasia Kozlowski, MR	Issue Date	10/08/09

## 1.0 Scope and Purpose

- 1.1 The quality system described in this section of the QM conforms to the requirements of the standard: Section 6—Resource management. This policy defines the corporate commitment to quality.

## 2.0 Resource Management

### 2.1 Provision of resources:

2.1.1 Resources have been determined and provided to:

- 2.1.1.1 Implement and maintain the quality management system and continually improve its effectiveness; and,
- 2.1.1.2 Enhance customer satisfaction by meeting customer requirements.

### 2.2 Human resources:

2.2.1 Personnel performing work affecting conformity to product requirements are competent on the basis of appropriate education, training, skills and experience.


### 2.3 Competence, training and awareness:

2.3.1 The organization has:

- 2.3.1.1 Determined the necessary competence for personnel performing work affecting conformity to product requirements;
- 2.3.1.2 Where applicable, provided training or taken other action to achieve the necessary competence;
- 2.3.1.3 Evaluated the effectiveness of the actions taken;
- 2.3.1.4 Ensured that its personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the quality objectives; and,
- 2.3.1.5 Maintained appropriate records of education, training, skills and experience.

### 2.4 Infrastructure:

2.4.1 The infrastructure needed to achieve conformity to product requirements has been determined, provided and maintained. Infrastructure examples may include, but not be limited to:

	<b>Microcast Technologies Corporation</b>	<b>QM Section 6 Resource Management</b>		Page 2 of 2
Approved By:	Dean Fuschetti, GM Opns	Issue Number:	2	
Approved By:	Kasia Kozlowski, MR	Issue Date	10/08/09	


- 2.4.1.1 Buildings, workspace and associated utilities;
- 2.4.1.2 Process equipment, both hardware, and software; and,
- 2.4.1.3 Supporting services such as transport, communication or information systems.

## 2.5 **Work environment:**

- 2.5.1 The work environment needed to achieve conformity to product requirements has been determined and managed.

## 3.0 **Related and Support Documentation**

- Quality Procedure QP II (Management Responsibility)
- Quality Procedure QP III (Resource Management)
- Quality Procedure QP XI (Data Analysis/Quality System Improvements)

 <b>Microcast Technologies Corporation</b>	<b>QM Section 7 Product Realization</b>	Page 1 of 7	
Approved By:	Dean Fuschetti, GM Opns	Issue Number:	2
Approved By:	Kasia Kozlowski, MR	Issue Date	10/08/09

## 1.0 Scope and Purpose

- 1.1 The quality system described in this section of the QM conforms to the requirements of the standard: Section 7—Product realization. This policy defines the corporate commitment to quality.

## 2.0 Product Realization

### 2.1 Planning of product realization:


- 2.1.1 The processes needed for product realization are planned and developed, and are consistent with the requirements of the other processes of the quality management system. In planning product realization, the following has been determined, as appropriate:
- 2.1.1.1 Quality objectives and requirements for the product;
  - 2.1.1.2 The need to establish processes and documents, and to provide resources specific to the product;
  - 2.1.1.3 Required verification, validation, monitoring, measurement, inspection and test activities specific to the product and the criteria for product acceptance;
  - 2.1.1.4 Records needed to provide evidence that the realization processes and resulting product fulfill requirements; and,
  - 2.1.1.5 Planning output is in a suitable form for methods of operation.

### 2.2 Determination of requirements related to the product:

- 2.2.1 Requirements related to the product have been determined, including:
- 2.2.1.1 Requirements specified by the customer, including the requirements for delivery activity;
  - 2.2.1.2 Requirements not stated by the customer but necessary for specified use or known and intended use;
  - 2.2.1.3 Statutory and regulatory requirements applicable to the product; and,
  - 2.2.1.4 Any additional requirements considered necessary by MTC.

### 2.3 Review of requirements related to the product:

- 2.3.1 Requirements related to the product are reviewed. This review is

	<b>Microcast Technologies Corporation</b>	<b>QM Section 7 Product Realization</b>	Page 2 of 7
Approved By:	Dean Fuschetti, GM Opns	Issue Number:	2
Approved By:	Kasia Kozlowski, MR	Issue Date	10/08/09

conducted prior to committing to supply a product to customers, and ensures that:

- 2.3.1.1 Product requirements are defined;
- 2.3.1.2 Contract or order requirements differing from those previously expressed are resolved;
- 2.3.1.3 The organization has the ability to meet the defined requirements; and,
- 2.3.1.4 Records of the results of review and actions arising from this review are maintained.


- 2.3.2 Where the customer provides no documented statement of requirements, customer requirements are confirmed before acceptance.
- 2.3.3 Where product requirements are changed, it is ensured that relevant documents are amended and that relevant personnel are made aware of the changed requirements.

## **2.4 Customer communication:**

- 2.4.1 Effective arrangements for communication with customers relating to the following are determined and implemented:
  - 2.4.1.1 Product information;
  - 2.4.1.2 Enquiries, contracts or order handling, including amendments; and,
  - 2.4.1.3 Customer feedback, including customer complaints.

## **2.5 Design and development planning:**

- 2.5.1 Design and development of the product is planned and controlled, including determination of the following:
  - 2.5.1.1 Stages of the design and development process;
  - 2.5.1.2 Review, verification and validation appropriate to each design and development stage; and,
  - 2.5.1.3 Responsibilities and authorities for design and development.
- 2.5.2 Interfaces between different groups involved in design and development are managed to ensure effective communication and clear assignment of responsibility.
- 2.5.3 Planning output is updated, as appropriate, as the design and development progresses.

 <b>Microcast Technologies Corporation</b>	<b>QM Section 7 Product Realization</b>		Page 3 of 7
Approved By:	Dean Fuschetti, GM Opns	Issue Number:	2
Approved By:	Kasia Kozlowski, MR	Issue Date	10/08/09

## **2.6 Design and development inputs:**

2.6.1 Inputs relating to product requirements are determined and records maintained, including:

- 2.6.1.1 Functional and performance requirements;
- 2.6.1.2 Applicable statutory and regulatory requirements;
- 2.6.1.3 Applicable information derived from previous similar designs;
- 2.6.1.4 Other requirements essential for design and development; and,
- 2.6.1.5 The inputs are reviewed for adequacy, and requirements are complete, unambiguous, and not in conflict with each other.

## **2.7 Design and development outputs:**

2.7.1 The outputs of design and development are in a form suitable for verification against the design and development input, and are approved prior to release. Design and development outputs:


- 2.7.1.1 Meet the input requirements for design and development;
- 2.7.1.2 Provide appropriate information for purchasing, production and service provision;
- 2.7.1.3 Contain or reference product acceptance criteria; and,
- 2.7.1.4 Specify the characteristics of the product that are essential for safe and proper use.

## **2.8 Design and development review:**

2.8.1 At suitable stages, systematic reviews of design and development are conducted to:

- 2.8.1.1 Evaluate the ability of the results of design and development to fulfill requirements; and,
- 2.8.1.2 Identify any problems and propose necessary actions.

2.8.2 Participants in the design and development review include representatives of functions concerned with the design and development stage being reviewed. Records of the results of the reviews and any necessary actions are maintained.

	<b>Microcast Technologies Corporation</b>	<b>QM Section 7 Product Realization</b>		Page 4 of 7
Approved By:	Dean Fuschetti, GM Opns	Issue Number:	2	
Approved By:	Kasia Kozlowski, MR	Issue Date	10/08/09	

**2.9 Design and development verification:**

2.9.1 Verification is performed to ensure that the design and development outputs have satisfied the design and development input requirements. Records of the results of the verification and any necessary actions are maintained.

**2.10 Design and development validation:**

2.10.1 Design and development validation is performed in accordance with planned arrangements to ensure that the resulting product is capable of fulfilling the requirements for the specified or known intended use or application. Wherever practicable, validation is completed prior to delivery or implementation of the product. Records of the results of validation and any necessary actions are maintained.


**2.11 Control of design and development changes:**

2.11.1 Design and development changes are identified and records maintained. The changes are reviewed, verified and validated, as appropriate, and approved before implementation. The review of design and development changes includes evaluation of the effect of the changes on constituent parts and delivered product. Records of the results of the review of changes and any necessary actions are maintained.

**2.12 Purchasing process:**

2.12.1 Purchasing processes are controlled to ensure purchased product conforms to specified purchase requirements. The type and extent of control is applied to suppliers and purchased product is dependent upon the effect of the purchased product on subsequent product realization or the final product.

2.12.2 Suppliers are evaluated and selected based on their ability to supply product in accordance with requirements. Criteria for selection, evaluation and re-evaluation and any necessary actions arising from the evaluation are maintained.

	<b>Microcast Technologies Corporation</b>	<b>QM Section 7 Product Realization</b>	Page 5 of 7
Approved By:	Dean Fuschetti, GM Opns	Issue Number:	2
Approved By:	Kasia Kozlowski, MR	Issue Date	10/08/09

**2.13 Purchasing information:**

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

2.13.1.1 Requirements for approval of product, procedures, processes, and equipment;

2.13.1.2 Requirements for qualification of personnel; and,

2.13.1.3 Quality management system requirements.

2.13.2 The adequacy of specified purchasing requirements prior to their communication to suppliers is ensured.

**2.14 Verification of purchased product:**

2.14.1 Inspection or other activities necessary for ensuring that purchased product meets specified purchase requirements are established and implemented.

**2.15 Control of production and service provision:**

2.15.1 Production and service operations are planned and carried out under controlled conditions, including, as applicable:

2.15.1.1 The availability of information that describes the characteristics of the product;

2.15.1.2 The availability of work instructions;

2.15.1.3 The use of suitable equipment;


2.15.1.4 The availability and use of monitoring and measuring equipment;

2.15.1.5 The implementation of monitoring and measurement; and,

2.15.1.6 The implementation of product release and delivery activities.

**2.16 Identification and traceability:**

2.16.1 Product is identified, where appropriate, by suitable means throughout production realization. The status of the product is identified with respect to measurement and monitoring requirements throughout product realization. Where traceability is a requirement, the unique identification of product is controlled and records are maintained.

	<b>Microcast Technologies Corporation</b>	<b>QM Section 7 Product Realization</b>	Page 6 of 7
Approved By:	Dean Fuschetti, GM Opns	Issue Number:	2
Approved By:	Kasia Kozlowski, MR	Issue Date	10/08/09

**2.17 Customer property:**

2.17.1 Care is exercised with customer property while it is under control or being used. Customer property provided for use or incorporation into product is identified, verified, protected and safeguarded. Any customer property that is lost, damaged or otherwise found to be unsuitable for use is reported to customers and records are maintained.

**2.18 Preservation of product:**


2.18.1 MWI preserves product during internal processing and delivery to the intended destination in order to maintain conformity to requirements. As applicable, preservation includes identification, handling, packaging, storage and protection. Preservation also applies to the constituent parts of a product.

**2.19 Control of measuring and monitoring equipment:**

2.19.1 The monitoring and measurements to be undertaken, and the monitoring and measuring equipment needed to assure conformity of product to determined requirements are determined. Processes are established to ensure that monitoring and measurement can be carried out and are carried out in a manner consistent with the monitoring and measurement requirements. Where necessary to ensure valid results, measuring equipment is:

- 2.19.1.1 Calibrated, verified or both at specified intervals, or prior to use, against measurement standards traceable to international or national measurement standards; where no such standards exist, the basis used for calibration is recorded;
- 2.19.1.2 Adjusted or re-adjusted as necessary;
- 2.19.1.3 Identified in order to determine its calibration status;
- 2.19.1.4 Safeguarded from adjustments that would invalidate the measurement result; and,
- 2.19.1.5 Protected from damage and deterioration during handling, maintenance and storage.

2.19.2 The validity of the previous measuring results are assessed and recorded when the equipment is found not to conform to requirements. Appropriate action is taken on the equipment and any product affected.


	<b>Microcast Technologies Corporation</b>	<b>QM Section 7 Product Realization</b>	Page 7 of 7
Approved By:	Dean Fuschetti, GM Opns	Issue Number:	2
Approved By:	Kasia Kozlowski, MR	Issue Date	10/08/09

2.19.3 Records of the results of calibration and verification are maintained.

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

### 3.0 Related and Supporting Documentation

- Quality Procedure QP II (Management Responsibility)
- Quality Procedure QP IV (Customer-Related Processes)
- Quality Procedure QP VI (Purchasing)
- Quality Procedure QP VII (Production and Service Provisions)
- Quality Procedure QP VIII (Control of Monitoring and Measuring Devices)
- Quality Procedure QP IX (Control of Nonconforming Product)
- Quality Procedure QP V (Design and Development)

 <b>Microcast Technologies Corporation</b>	<b>QM Section 8 Measurement, Analysis and Improvement</b>	Page 1 of 5	
Approved By:	Dean Fuschetti, GM Opns	Issue Number:	2
Approved By:	Kasia Kozlowski, MR	Issue Date	10/08/09

## 1.0 Scope and Purpose

- 1.1 The quality system described in this section of the QM conforms to the requirements of the standard: Section 8—Measurement, analysis and improvement. This policy defines the corporate commitment to quality.

## 2.0 Measurement, Analysis and Improvement

### 2.1 General requirements:


- 2.1.1 The organization has planned and implemented the monitoring, measurement, analysis and improvement processes needed to:
- 2.1.1.1 Demonstrate conformity to product requirements;
  - 2.1.1.2 Ensure conformity of the quality management system; and,
  - 2.1.1.3 Continually improve the effectiveness of the quality management system.
- 2.1.2 This includes determination of applicable methods, including statistical techniques, and the extent of their use.

### 2.2 Customer satisfaction:

- 2.2.1 As one of the measurements of the performance of the quality system, the organization monitors information relating to customer perception as to whether customer requirements have been fulfilled. The methods for obtaining and using this information are determined.

### 2.3 Internal audit:

- 2.3.1 Periodic internal audits are conducted at planned intervals to determine whether the quality management system:
- 2.3.1.1 Conforms to the planned arrangements, to the requirements of this International Standard, and to the quality management system requirements established by the organization; and,
  - 2.3.1.2 Is effectively implemented and maintained.

	<b>Microcast Technologies Corporation</b>	<b>QM Section 8 Measurement, Analysis and Improvement</b>	Page 2 of 5
Approved By:	Dean Fuschetti, GM Opns	Issue Number:	2
Approved By:	Kasia Kozlowski, MR	Issue Date	10/08/09

- 2.3.2 An audit program is planned that takes into consideration the status and importance of the processes and areas to be audited, as well as the results of previous audits. The audit criteria, scope, frequency and methods are defined. The selection of auditors and conduct of audits ensures objectivity and impartiality of the audit process. Auditors do not audit their own work.
- 2.3.3 A documented procedure has been established to define the responsibilities and requirements for planning and conducting audits, establishing records and reporting results.
- 2.3.4 The management responsible for the audited area ensures that any necessary corrections and corrective actions are taken without undue delay to eliminate detected nonconformities and their causes. Follow-up activities include the verification of the actions taken and the reporting of verification results.

**2.4 Monitoring and measurement of processes:**


- 2.4.1 Suitable methods are applied for monitoring and, where applicable, measurement of the quality management system processes. These methods demonstrate the ability of the processes to achieve planned results. When planned results are not achieved, correction and corrective action are taken, as appropriate.

**2.5 Monitoring and measurement of product:**

- 2.5.1 The characteristics of the product are monitored and measured to verify that product requirements are fulfilled. This is completed at appropriate stages of the product realization process in accordance with planned arrangements. Evidence of conformity with the acceptance criteria is maintained.
- 2.5.2 Records indicate the person(s) authorizing the release of product for delivery to the customer.
- 2.5.3 The release of product and delivery of service do not proceed until all the planned arrangements have been satisfactorily completed, unless otherwise approved by a relevant authority, and where applicable by the customer.

**2.6 Control of nonconforming product:**

- 2.6.1 Product that does not conform to product requirements is identified and controlled to prevent its unintended use or delivery. The controls and

 <b>Microcast Technologies Corporation</b>	<b>QM Section 8 Measurement, Analysis and Improvement</b>	<b>Page 3 of 5</b>	
Approved By:	Dean Fuschetti, GM Opns	Issue Number:	2
Approved By:	Kasia Kozlowski, MR	Issue Date	10/08/09

related responsibilities and authorities for dealing with nonconforming product are defined in a documented procedure.

2.6.2 Where applicable, nonconforming product is dealt with by one or more of the following manners:

2.6.2.1 By taking action to eliminate the detected nonconformity;

2.6.2.2 By authorizing its use, release or acceptance under concession by a relevant authority and, where applicable, by the customer; and,

2.6.2.3 By taking action to preclude, its original intended use or application.

2.6.2.4 By taking action appropriate to the effects, or potential effects of the nonconformity when nonconforming product is detected after delivery or use has started.

2.6.3 When nonconforming product is corrected, it is subject to re-verification to demonstrate conformity to the requirements.

2.6.4 When nonconforming product is detected after delivery or use has started, actions are taken appropriate to the effects, or potential effects, of the nonconformity.

2.6.5 Records of the nature of nonconformities and any subsequent actions taken, including concessions obtained, are maintained.

## 2.7 Analysis of data:

2.7.1 The determination of, collection, and analysis of appropriate data is completed to demonstrate the suitability and effectiveness of the quality management system, and to evaluate where continual improvement of the quality management system can be made. This includes data generated as a result of monitoring and measurement and from other relevant sources.

2.7.2 The analysis of data provides information relating to:

2.7.2.1 Customer satisfaction;


2.7.2.2 Conformity to product requirements;

2.7.2.3 Characteristics and trends of processes and products including opportunities for preventive action; and,

2.7.2.4 Suppliers.

## 2.8 Continual improvement:

2.8.1 The effectiveness of the quality management system is continually improved through the use of the following:

 <b>Microcast Technologies Corporation</b>	<b>QM Section 8 Measurement, Analysis and Improvement</b>	Page 4 of 5	
Approved By:	Dean Fuschetti, GM Opns	Issue Number:	2
Approved By:	Kasia Kozlowski, MR	Issue Date	10/08/09


- 2.8.1.1 Quality policy;
- 2.8.1.2 Quality objectives;
- 2.8.1.3 Audit results;
- 2.8.1.4 Analysis of data;
- 2.8.1.5 Corrective and preventive actions; and,
- 2.8.1.6 Management review.

## **2.9 Corrective and preventive action:**


- 2.9.1 Corrective action is taken to eliminate the causes of nonconformities in order to prevent recurrence. Corrective actions are appropriate to the impact of the problems encountered.
- 2.9.2 A documented procedure for corrective action is established defining requirements for:
  - 2.9.2.1 Reviewing nonconformities (including customer complaints);
  - 2.9.2.2 Determining the causes of nonconformities;
  - 2.9.2.3 Evaluating the need for action to ensure that nonconformities do not recur;
  - 2.9.2.4 Determining and implementing action needed;
  - 2.9.2.5 Records of the results of actions taken; and,
  - 2.9.2.6 Reviewing the effectiveness of corrective action taken.
- 2.9.3 Preventive action is determined to eliminate the causes of potential nonconformities in order to prevent occurrence. Preventive actions are appropriate to the effects of the potential problems.
  - 2.9.3.1 A documented procedure for preventive action is established defining requirements for:
    - 2.9.3.1.1 Determining potential nonconformities and their causes;
    - 2.9.3.1.2 Evaluating the need for action to prevent occurrence of nonconformities;
    - 2.9.3.1.3 Determining and implementing action needed
    - 2.9.3.1.4 Records of results of action taken; and,
    - 2.9.3.1.5 Reviewing the effectiveness of preventive action taken.

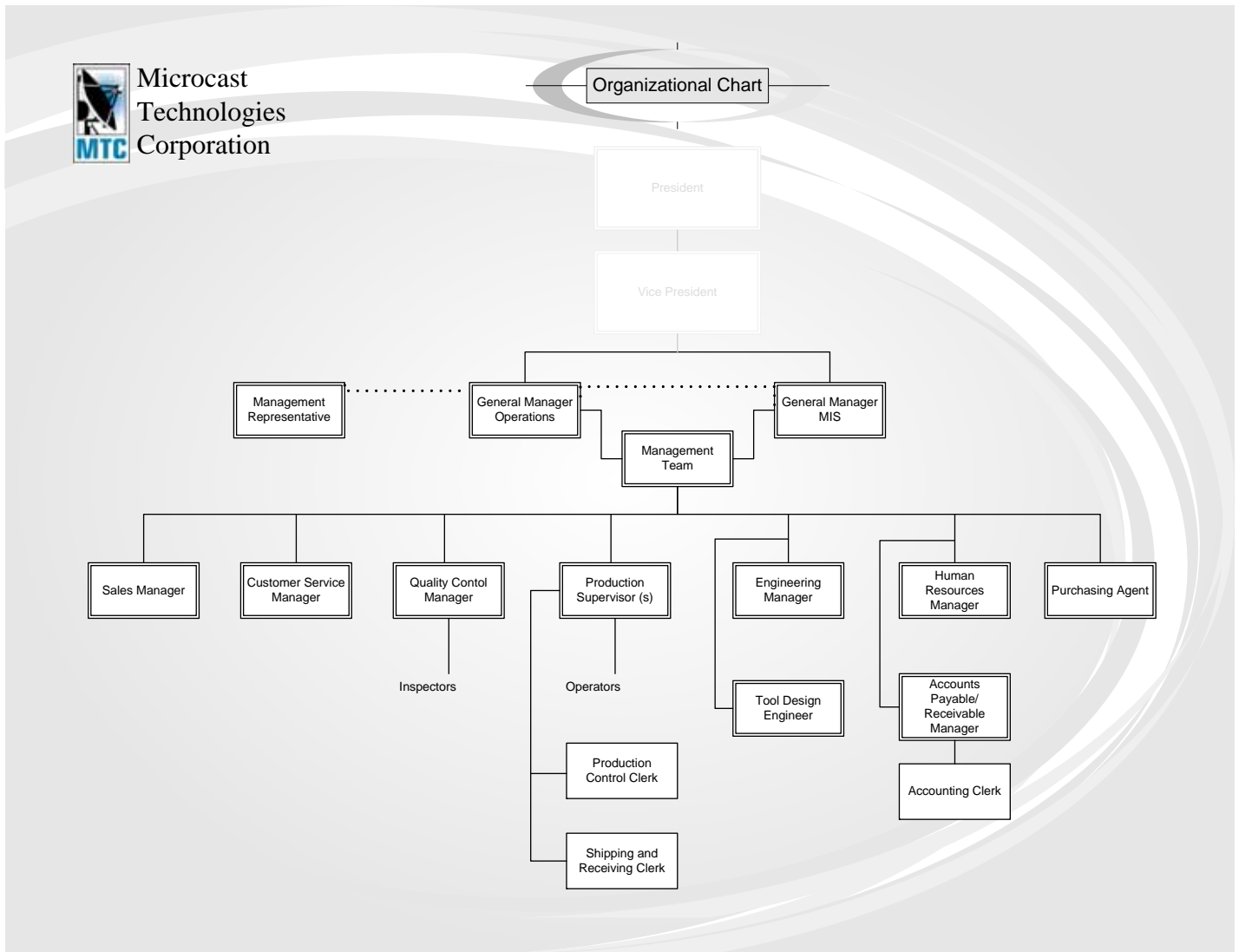
## **3.0 Related and Support Documentation**

Quality Procedures QP X (Monitoring and Measurement)


	<b>Microcast Technologies Corporation</b>	<b>QM Section 8 Measurement, Analysis and Improvement</b>	Page 5 of 5
Approved By:	Dean Fuschetti, GM Opns	Issue Number:	2
Approved By:	Kasia Kozlowski, MR	Issue Date	10/08/09

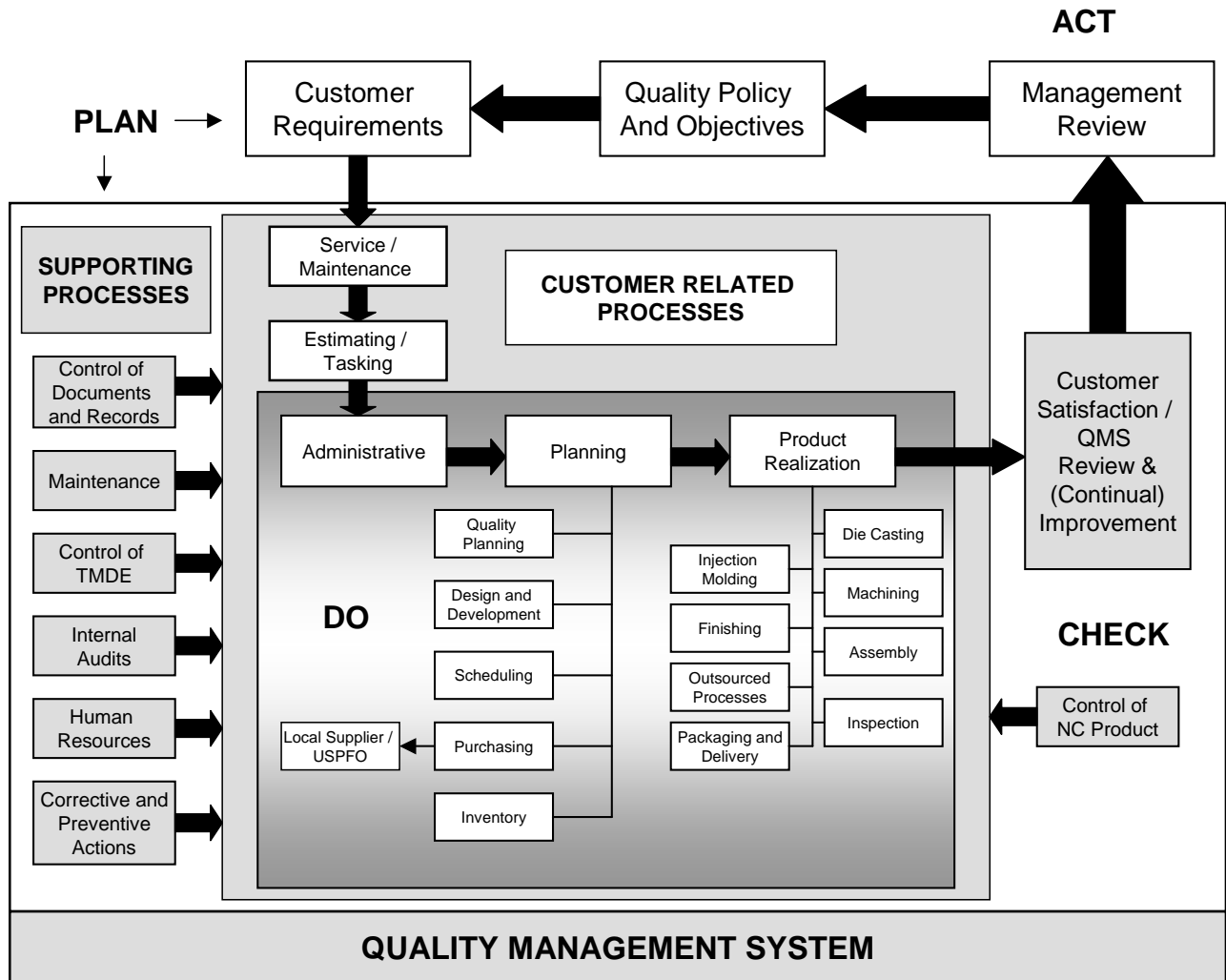
QP XI (Data Analysis/Quality System Improvement)  
QP XII (Corrective and Preventive Action)

 <b>Microcast Technologies Corporation</b>	<b>QM Appendix A Organizational Chart</b>	Page 1 of 1	
Approved By:	Dean Fuschetti, GM Opns	Issue Number:	3
Approved By:	Steve Fuschetti, GM MIS	Issue Date	11/4/03



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 <b>Microcast Technologies Corporation</b>	<b>QM Appendix B Interaction of Processes</b>	Page 1 of 1	
Approved By: Dean Fuschetti, GM Opns	Issue Number: 2		
Approved By: Kasia Kozlowski, MR	Issue Date: 11/13/2008		



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