



**Kimball**<sup>®</sup>  
Electronics

# Equipment Supplier Quality Manual

Applicable to Equipment Suppliers for

Kimball Electronics – Jasper

1038 E 15<sup>th</sup> Street

Jasper, IN 47546



**Kimball**<sup>®</sup>  
Electronics

## **Introduction**

### **About Kimball Electronics, Inc.:**

Kimball Electronics, Inc. (“Kimball Electronics” or “KE”) is a leading technology company providing design and engineering services, manufacturing, packaging, and distribution of electronic assemblies to a variety of industries on a global scale. Kimball Electronics is a contract manufacturer of durable goods. We continue to make the customer the focus of everything we do and will continue to provide the highest industry quality through continuous improvement.

Supplier development, high quality and reduced costs are some of our customers' primary concerns. By measuring our suppliers' performance in the three key areas of quality, delivery and service, we are able to help our customers remain competitive in the world market. For more information about KE, visit our internet web site at [www.kimballelectronics.com](http://www.kimballelectronics.com).

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DC: 381929 SAP QSD: 10000288038

Owner: Mfg. Engineering Manager

## 1.0

### **Purpose and Function of This Manual**

**Vision** - Kimball Electronics' goal is to develop a working relationship with our suppliers, mirroring the Vision and Guiding Principles on which KE's business philosophy is founded. The cornerstone to this relationship is aligning our expectations to ensure that our suppliers understand that they are a key part of our commitment to provide quality products that exceed our customers' expectations.

**Purpose** - The Equipment Supplier Quality Manual ("ESQM" or "manual") specifies Kimball Electronics' quality management system requirements and outlines the minimum acceptance conditions for the areas addressed within the manual. Additional requirements will be communicated on a case-by-case basis and/or will be addressed in other business-related documents. See Section 2.3 Document Hierarchy.

**Scope** - This ESQM only applies to product that is being supplied to Kimball Electronics. Any supplier process that does not relate to material or services being provided to Kimball Electronics is outside the scope of this manual.

## **2.0 Foundation of Core Requirements**

### **2.1 General**

(a) It is the expectation that the supplier follows the latest revision of the ESQM. For the latest revision and revision verification, refer to Equipment Supplier Quality Manual at <http://www.kimballelectronics.com/>All prior documented agreements remain valid until the newest revision of this manual is reviewed and acceptance of said manual is established.

(b) This manual was developed using the fundamental guidelines established in the International Organization for Standardization (ISO) Standards and Automotive Quality Management System Standards, such as ISO 9001, ISO 13485 and IATF 16949.

**Suppliers shall pass all KE's requirements in this manual to their subcontract manufacturers providing materials that roll-up into equipment sold to KE for their awareness of KE's customers' expectations.**

### **2.2 Basic Quality/Delivery Expectations**

(a) KE expects all suppliers to strive to reach a 0 PPM/0 Defect Occurrence and 100% On-time Delivery standard and be compliant in the appropriate Quality Management System standard. All suppliers not meeting these standards are expected to have action plans in line with the guidelines in Section 4, which may be requested by KE, to work toward these goals. Suppliers failing to meet KE's quality and delivery standards may be placed on new business hold and ultimately, unapproved if improvement plans are not met. KE recommends the use of the 6 Sigma tool set, Lean practices, and 5S methods.

(b) OEM Software provided for calibration purposes must have documented proof of validation from the OEM.

- May be submitted to KEJ in form of: Signed letter specifying the validation process, Certificate of Validation, etc.

### **2.3 Document Hierarchy**

(a) This manual defines the minimum requirements in conjunction with purchase orders, drawings and specifications. In the event of conflicting interpretations, the following order of precedence applies:

- 1) Purchase Order
- 2) KE Specification or Drawing
- 3) Reference Documents/Signed Agreements/Data Sheets
- 4) This manual

Note: No verbal or unsigned documents supersede the requirements in this manual.

### **2.4 Supplier Approval of Manual**

(a) It is KE's intent to limit the amount of exceptions; thus, all exceptions will be reviewed and negotiated by the appropriate KE personnel. Approval by the KE personnel will be required before the exceptions shall be valid.

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## **2.5 Quality System Requirements**

- (a) Equipment Manufacturer must be at a minimum, compliant to the appropriate quality system standard. For example, ISO 9001 compliant.
- (b) In addition to the above requirements, KE's customers may have product-specific requirements which shall be communicated separately.

## **2.6 Conditions of Purchase**

- (a) Acceptance of the purchasing documentation or the shipment of products constitutes acceptance of ALL REQUIREMENTS detailed within the purchasing documents. Suppliers shall meet all Conditions of Purchase, including KE's standard Terms and Conditions, unless a superseding contract signed between the supplier and KE, which provides different terms and conditions of purchase, exists. In which case, the contract will define the primary rules and conditions of precedence or may add the new requirements to existing Terms and Conditions.
- (b) If the supplier is unable to meet these conditions, the KE contact for that purchase document must be notified in writing prior to acceptance of the order. The Conditions of Purchase will apply to each Purchase Order released by KE.
- (c) Failure to comply with the purchase requirements can result in the rejection of the received material.

## **3.0 Equipment Manufacturer Change Request (EMCR)**

### **3.1 General EMCR Process Requirements**

- (a) Any change(s) must be properly documented in writing and be submitted to the KE Contact(s).
- (b) ALL changes must be formally approved in writing by KE Engineer prior to the implementation of said change.
- (c) The supplier shall be liable for costs associated with unapproved changes which may include, but are not limited to, any combination of the following conditions: rework, replacement, KE line down time, KE customer line down time, scrap induced by the unapproved change.
- (d) Submission of an EMCR does not constitute authorization for manufacturer to ship.
- (f) Approval by Kimball Electronics - Jasper site does not indicate approval by all KE sites. If Approval is granted by another KE site, this does not constitute approval for KE Jasper site.
- (g) No design changes will be allowed on any KE program without proper justification, objective evidence and documented approval.

### **3.2 Submission Expectations**

- (a) The supplier shall provide KE with a detailed description of the proposed change(s), including as needed, testing and/or dimensional data appropriate for the change being submitted.
- (b) When data/testing cannot be accomplished without the implementation of the change, a detailed plan explaining the data that will be provided post-change shall accompany the EMCR.

## **4.0 Corrective Action (CA) & Failure Analysis (FA) Requirements**

### **4.1 Corrective Action**

- (a) When a Corrective Action is requested, KE prefers the method of documenting this process to follow the standard 8-Steps discipline (8D).
- (b) The 8D method consists of identification of team members, detailed description of the problem, containment action, detailed root-cause analysis and reason the defect was not contained, interim corrective action(s), permanent corrective action(s), verification of effectiveness, steps taken to prevent reoccurrence, and congratulations to the team members.

### **4.2 Corrective Action Requirements**

- (a) The corrective action plan shall be submitted to the KE site contact requesting the corrective action within the timeframe indicated on the request for corrective action.
- (b) The supplier must notify KE if the request is not sufficient for their corrective action activities and request clarification or additional information within 24 hours of receipt of the initial notification.
- (c) In situations where the proposed corrective action will require a change to the manufacturing process or component design, an EMCR will be required
- (d) The EMCR is to reference the CA number within the "Reason for Change" section. Periodic and timely progress updates shall be provided to the KE facility requesting the CA.

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Notification of approval from the KE manufacturing site requesting the corrective action shall be given upon satisfactory completion of the corrective action.

## **5.0 Management of KE Tooling**

### **5.1 General Requirements**

- (a) Unless provided with markings or tagging, supplier shall permanently mark or tag tooling items provided by KE to preserve ownership visibility.
- (b) The supplier is responsible and liable for the tooling item immediately upon receipt. This includes cleanliness, preventive maintenance, storage and handling of the tool.
- (c) All tooling, KE owned or KE's customer owned, used by supplier will be subject to contractual terms and conditions to determine replacement responsibility.

### **5.2 Tracking of Tools at the Supplier's Site**

(a) The supplier shall maintain the following information on KE / KE customer-owned tools:

- Tool or tool order number
- Description of the tool
- Receiver or owner of the tool
- List of KE customer-owned tools
- List of KE-owned tools
- Location of tool in house
- Evidence of the permanent marking on each tool

### **5.3 Changing of a KE Tool Status**

- (a) The KE contact shall be immediately notified of any change to the functionality of the tool or any issue that might affect quality or delivery of product produced. KE and suppliers will follow specific customer request to report tooling condition and status.
- (b) Modifications and change of location shall require the submission and subsequent approval of an EMCR prior to the initiation of the change. (See Section 3.0 Equipment Manufacturer Change Request.)
- (c) The supplier shall obtain written approval prior to dispositioning any KE-provided tool.

## **6.0 Access**

### **6.1 Supplier Audit**

- (a) A supplier audit may be conducted by KE representatives, at the supplier's site(s), at any time with prior notice. The purpose of the audit is to verify that the supplier has the appropriate resources to produce equipment that can meet both the quality, delivery, and service targets stated in this manual.
- (b) Action items or recommendations may be generated as a result of any audit activity.
- (c) The supplier's commitment to correction of the deficiencies identified during the audit will be a factor in determining overall acceptability of the supplier.
- (d) Once corrections are made, a follow-up audit may be scheduled to confirm the completion of the actions.

## **7.0 Packaging, Labeling and Handling**

### **7.1 General Requirements**

- (a) Product shall be appropriately packaged to protect it from damage. All supplier-provided packaging shall meet applicable shipping laws, codes and regulations, and must be qualified to International Safe Transit Association (ISTA) test standards, as applicable.
- (b) All shipments shall be packaged in an undamaged package which is free of dirt, debris, and foreign materials.
- (c) Packaging that does not meet these standards may be grounds for rejection of the shipment.
- (e) Each shipment shall be marked with the following information:
  - KE P.O. number
  - KE part description
  - Manufacturer part number
  - Manufacturer name

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- Number of boxes, skids, or crates (in the shipment)
- KE site name, address, and contact person (if known)
- Equipment crates must have Shock and/or Tip indicators

(f) As applicable, additional information shall be provided on the relevant shipment documents:

- Country of Origin
- Battery information

(h) Packing slips shall be attached to each carton exterior in shipping envelopes.

## **7.2 Electro Static Discharge (ESD) Requirements**

(a) KE ESD Control Programs are based on ESD Association S20.20 or IEC 61340-5-1.

(b) The product's packaging shall be labeled as to the sensitivity of the device.

(c) Static-sensitive operations shall incorporate grounding measures to ensure that components/ product are not damaged due to ESD events.

## **7.3 Moisture Sensitivity Requirements**

(a) Overseas shipment of equipment shall be sealed in a moisture barrier bag containing desiccant and humidity indicator card, when appropriate.

## **8.0 Capacity Verification**

### **8.1 General Requirements**

(a) The primary purpose of capacity verification is to determine/identify bottlenecks within the manufacturing process of the equipment vendor that could impact ability to meet KE's requirements.

(b) KE can request/require capacity studies at any phase of the equipment build.

### **8.2 Capacity Summary**

(a) If supplier capacity becomes an issue, a corrective action plan showing actions to be taken to address the issue must be provided immediately.

(b) If supplier facility capacity for any process step shows greater than 80% utilization, it must be reviewed and a detailed plan of action established to ensure the vendor is capable of meeting demand in a timely manner.

## **9.0 Lead Time**

### **9.1 General Requirements**

(a) The supplier must provide an achievable lead time at time of quotation. Lead time shall be enforced from the reception of Purchase Order. Any delay must be addressed via corrective action with plan defined to achieve target date.

## **10.0 Manufacturing Feasibility Statement**

### **10.1 General Requirements**

(a) A Manufacturing Feasibility Statement is a commitment by a supplier that the equipment can be manufactured in accordance with proposed design, while meeting all capability requirements, and shipped to meet production requirements.

(b) Design changes/revisions will need to be reviewed independently.

### **10.2 Manufacturing Feasibility Submission**

(a) A Manufacturing Feasibility Statement shall be submitted per KE request.

(b) Assessment of feasible, with no exceptions noted, indicates that the supplier can meet ALL of the requirements for KE's application.

(c) Assessment of Marginal or Not Feasible means that the supplier is not able to meet at least one of the program requirements. Exceptions shall be documented.

(d) Corrective action plan(s) and/or suggestions for design/process changes to achieve the design requirements must be submitted with the exception list.

(e) The supplier is also expected to recommend changes that would improve the manufacturability or quality, eliminate potential failure modes, or reduce cost.

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(f) It is KE's intent to limit the amount of exceptions; thus all exceptions will be reviewed and negotiated by the appropriate KE personnel.

(g) Failure by the supplier to identify and document feasibility concerns during the supplier selection process does not limit the supplier's legal and economic obligation to the program once awarded the business.

## **11.0 Machine Run-off Requirements**

### **11.1 General Requirements**

(a) The purpose of the Machine Run-off activity is to ensure the success of the product launch from the equipment perspective. For inspections of elements that have been identified as a potential risk, the objective is to identify issues prior to creating non-conforming product. Machine Run-offs will take place until the equipment has been proven to be capable and the product being created meets the needs and expectations of KE.

(b) The quality requirement/expectation for Kimball production is Zero (0) Defects throughout the duration of the Machine Run-off.

(c) This expectation is applied to both the equipment manufacturer's site, as well as, after reception at KE's facility.

(d) Defects of significant nature, either at the equipment manufacturer's site or KE's facility, will require corrective action and can result in the restart of the Machine Run-off requirements.

### **11.2 Submission and Reporting Requirements**

(a) Specific requirements are based on individual programs and will be reviewed/presented during the early developmental stages of the program.

(b) The Machine Run-off shall be planned for a date agreed upon between the equipment manufacturer and KE Engineering.

(c) Results of the Machine Run-off shall be recorded by KE Engineering (including all defects, delays, etc.) found at both the equipment manufacturer's site and KE's facility.

(d) The Machine Run-off may be closed, delayed, or canceled only under KE Engineering approval.

## **12. Facilities**

(a) Physical size limitations to meet our facility

- Delivery trailer Must be Dock Height of 45" to 49"
- Dock Opening Height – 102" MAX
- Internal:
  - Door 1
    - Height 7'5", Width 8', Length 18'
  - Door 2
    - Height 8'6", Width 6', Length 12'
    -

(b) Utility requirement definitions (what KEJ offers and requires)

- KEJ Facilities Provided
  - Electrical
    - 120VAC <35A
    - 208VAC Single Phase
    - 208VAC Three Phase
    - 480VAC Three Phase
  - Pneumatics
    - CDA
      - 110psi
    - Nitrogen
      - 105psi

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**KEJ Approval:**

Manufacturing Engineering Manager  
Engineering Project Leader

**Distribution:**

Manufacturing Engineering Team Lead-Equipment  
Technical Maintenance Management  
Quality Systems