

# CenArk Controls, LLC

*"Processes. Controlled."*

Case 150211 - Abbreviated

Project: Product Traceability

Customer: Manufacturer of electronic boards for high speed testing systems.

Location: North America

Challenge: Production data could not be traced to each component, creating customer complaints and production issues.

Overview:

The client is the designer and manufacturer of high speed electrical test systems for the telecommunications industry.

Request:

Quote method of adding a database system into the current production line to provide historical traceability of all components in a product. The traceability must be associated to the unique serial number of each PCB.

Discovery:

The existing manufacturing process was found to be very manual. After each operation was completed, an operator would move the product to the next production station. Each manufacturing and testing station was semi-automatic. Production equipment was from multiple suppliers. No traceability was available.

Customer Perceived Issue:

- The current production line was "stitched" together and traceability was impossible without the expense of replacing equipment and redesign of tooling.
- A dedicated network would have to be installed on the plant floor to capture the data.
- An employee would have to be dedicated full time to the maintenance of the data collection system.
- Loss of business by not fulfilling the customers' requirements would be more than \$5,000,000.
- The expected cost of the data collection system was \$200,000, plus the expense of replacing production equipment.

Actual Issue:

- The production components were delivered in boxes clearly labeled by LOT, BACTH and MANUFACTURER.
- The product being manufactured was already identified by a barcode label identifying the serial number.
- The production line was JIT, having all stations within arm's reach of the other.
- Most of the production operators spoke English as a second language, creating communication challenges with management.



Office: 501-314-0840  
Fax: 501-859-8381  
Mobile: 501-554-4465  
[service@cenarkcontrols.com](mailto:service@cenarkcontrols.com)  
[www.cenarkcontrols.com](http://www.cenarkcontrols.com)



# CenArk Controls, LLC

*"Processes. Controlled."*

## Solution:

Each station, including receiving and shipping had a dedicated barcode reader (Cognex) installed. Each reader was connected to an Ethernet network (TCP) well as stack lights. All readers were connected to a single computer located in the production office.

When new material was introduced into the production line, the lot, batch and manufacturer was scanned into the system. This data was passed from station to station, associated with each unique serial number. If any station was bypassed, the system would indicate an error via the red stack light and the station would not operate until the error was corrected. This was also true of shipping. If any product made it to the shipping department and was determined to have missed a production or testing step, the shipping label could not be printed.

The data was displayed in the production office in real time as well as stored in a comma delimited file (CSV). This allowed for historical reporting, using Excel, as well as production improvements based on the now known station cycle times and consistent process issues.

All alarms were displayed in both English and Spanish.

## Results:

- Final installation was less than \$80,000.
- The system was automatic, eliminating the need for a dedicated employee to manage the data.
- Customer requirements were exceeded, increasing the Client's standing in the industry,
- Customer complaints due to defective product from missed production steps were eliminated.
- Production improvements were possible, using the real time data of the process flow.
- No manufacturing equipment replacement was necessary.
- Quality and production issues were reduced by the improved communication.



Office: 501-314-0840  
Fax: 501-859-8381  
Mobile: 501-554-4465  
[service@cenarkcontrols.com](mailto:service@cenarkcontrols.com)  
[www.cenarkcontrols.com](http://www.cenarkcontrols.com)

