



**Mantisco Systems, Inc.**

## **Unattended Scanning Systems Perform Traditional Bar Code Verification On Packaging Lines**

***"Nothing Is Better Than a High Speed Packaging Line For Duplicating Errors."***

***Murphy***

### **General Description**

In most industries, 100% in-line verification of bar codes on packaging lines has become an essential component of good manufacturing practices. Not only must bar codes be machine readable, they must be correct for the item. After all, a packaging line is the most critical point for bar code inspections. This is where manufacturers can take the last qualitative look at the bar code before releasing product into distribution channels.

The MANTIS in line verifier kit is designed to operate unattended in a high speed packaging environment. In operation, the MANTIS compares learned numeric values stored in memory to actual numeric data collected by Unattended Scanning Systems. Both laser scanners for linear bar codes (UPC) and Charged Couple Device (CCD) sensors for 2-D (RSS) transmit numeric values to the MANTIS operator Interface for verification.

Typical bar codes symbols include 1-D (UPC, EAN, Code 39, 2 of 5...) or 2-D (Data Matrix, RSS, PDF-417, MaxiCode...).

When a good read \ good match occurs, the event is counted and no alarm is made. In the event of a no-read or no-match, the occurrence is counted and an audible, visual, contact closure alarm is made. The error event may also be transmitted to host systems via serial or network communications.

## **The Need**

National Retailers expect that at the point of sale, UPC codes are scannable and correct for the SKU. Heavy fines are assessed to manufacturers and distributors of product with poorly printed or incorrect bar codes. Between 1993 and 1997 one major retailer collected over \$27,000,000 in fines from suppliers. This dollar amount does not include other costs to manufacturers such as product liability, material cost, freight cost and lost customer good will.

More recently, in industries with packaging lines that affect public health, the FDA has enacted regulations which in part tighten packaging and labeling control requirements. This label verification and inspection includes reading both linear and 2-D bar codes on all components. Reference FDA 21 CFR Part 11.

## **The Solution**

Mantis Operator Interface and unattended scanning systems verify 100% product labels are readable and correct. The system will detect and set alarms for the very first bar code that does not read or is incorrect for the packaging line. The complete kit is designed to operate as an integrated stand alone system that requires no PLC. The system operates out of the box and line side operators can operate the system with a few minutes of instruction. Operating a key switch for LEARN, RUN and RESET is all that is required of line side operators.

## **Solution Benefits**

Return on investment for the Mantis Operator Interface 100% verification system is based upon:

### Tangible:

- Reduced Product Waste
- Reduced Packaging Waste
- Reduced Machine Time
- Reduced Direct Labor Expense
- Eliminate return freight cost
- Eliminate label compliance liability (fines)

### Intangible:

- Eliminate Supply Chain Trauma
- Improves Customer Good-Will
- Enables QC standard
- Promotes Good Manufacturing Practices (GMP)

## **Expandable System**

The basic Mantis Operator Interface answers the question "Are 100% of the bar codes on my packaging line readable and correct." ? Functions of the Mantis Operator Interface can be expanded to include Brand Counting at the full case level. With this additional functionality, company managers will be able to view current and historical production counts over the corporate LAN. Interim production reports, accurate up to the very last case scanned are available to any authorized user. With this application, clip boards, fence post tally and key entry of production data is eliminated.

The Brand Counting application records bar code data (UPC) scanned through the system, transmits and stores the data on a configurable schedule to a remote SQL server database. Once the hardware drivers have been installed and the components of the data transfer process have been configured on host and remote machines, the application is ready to run.

Brand counting is a summary report of counts accumulated by in-line bar code scanners. The Brand Counting ODBC data source driver is a SQL server. The SQL server for brand counts is on a remote (customer supplied) machine.

To enable brand counting, the Mantis Operator Interface is configured as a network (Ethernet) client. An IP address is assigned to each Mantis Operator Interface that will report full case brand counts. A sample report is shown below:

| <u>BRAND CODE</u>    | <u>DESCRIPTION</u>    | <u>COUNT</u> | <u>DATE</u>     | <u>TIME</u>     |
|----------------------|-----------------------|--------------|-----------------|-----------------|
| <b>1006300061359</b> | <b>12 oz Cherry</b>   | <b>1044</b>  | <b>08.01.04</b> | <b>09:18:22</b> |
| <b>1006300050658</b> | <b>14 oz Grape</b>    | <b>2112</b>  | <b>08.01.04</b> | <b>09:22:01</b> |
| <b>1006300011289</b> | <b>Apple 12 Count</b> | <b>613</b>   | <b>08.01.04</b> | <b>09:35:10</b> |
| <b>1006300020194</b> | <b>Peach 24 Count</b> | <b>1215</b>  | <b>08.01.04</b> | <b>09:36:52</b> |
| <b>1006300051787</b> | <b>Mixed Fruit 01</b> | <b>14400</b> | <b>08.01.04</b> | <b>08:04.47</b> |

## **For More Information**

Please contact Mantisco Systems, Inc. at (708) 366-3621 or send an email to [sales@mantisco.com](mailto:sales@mantisco.com) or visit [www.mantisco.com](http://www.mantisco.com).



On each production line, an unattended scanner and a Mantis Operator Interface are used to check that a print and apply label is correct and readable. Cartons that are missing labels are diverted. Good reads are transmitted over the Ethernet and counts are tabulated in report form. Management no longer has to visually inspect labels or wait for manual data entry of production data.