



DATE CODE INSPECTION

Ensuring that the proper date code is printed on perishable goods is one of utmost importance. The modern factory today will generally have multiple QC checks periodically over the course of a shift or production run to ensure the shelf life date has been coded properly.

Product recalls can be costly for any company, and can potentially jeopardize large contracts if the quality of the product, including the accuracy and readability of the date code are not met.

For producers that ship products globally, there can be legislation in other countries that require the manufacture to ensure that every product has the right date code.



PROBLEM CODING

Ink Jet coding and laser coding are far from infallible; the process of controlling millions of droplets of ink, or the transportation and handling systems which present the product to coders are always vulnerable to error. Static can cause print to be stretched or skewed; ink viscosity, product temperature, surface moisture on the packaging, are all factors that effect the reliability of coding.

PROBLEM MANUAL INSPECTION

No manual inspection operation is guaranteed reliable; a QC person will have a dramatic drop in attention within a few short minutes of looking at a high speed production line and, no two operators' judgment will ever be the same. Traditionally manual checks are performed periodically, or by a person that has multiple tasks to consider. With this type of manual process in place, it is very likely that most of the defective product still makes it past the inspection.

PROBLEM VISION TECHNOLOGY

Vision Inspection Systems tend to be very 'black and white' when it comes to determining the quality of print. This becomes a problem with coded products, as the coder and/or the surface that is being coded on can be inconsistent at the best of times. The vision system needs to be tolerating enough to cater for this, yet be strict enough to determine a defect. The right balance of this is achievable providing the correct machine vision hardware is selected and the implementation to the coding system is integrated properly.



SOLUTION

Automation & Robot Technologies (A&RT) approach to Date Code Inspection is simple with respect to operator usability and flexibility, however uses the most current technology available to create a compact self contained solution that is fully configurable. The result is an inspection and rejection system that can be directly integrated to existing production lines with minimal effort.

The system is based on the Cognex Insight 5603 vision sensor, CV VisionServer HMI platform, and Allen Bradleys high performance Compact Logix PLC. This winning combination has the capability to inspect date codes / time stamps and other character inspections in less than 100 msec.



THE A&RT SYSTEM

The High Resolution, High speed camera coupled with a high resolution high speed coder provides a fantastic solution to this problem. The flexibility and the open architecture of the ART system ensures customers will have the capability to expand the system and product line for future changes in products, a definite 'must have' for the Australian manufacturing market.



The open architecture of the ART system means that a 'custom' quality control checks that might not otherwise be available, can be added to the inspection criteria. This may include data collection from another inspection device, or additional vision inspection(s) from the same or multiple cameras. Combine Date Code inspection with Label and/or Cap or Closure inspection for a truly effective Quality Control Machine.

The flexibility in the mechanical design can cater for multiple cameras, and lighting solutions in one compact module. The design can be adapted to a existing conveyor system, or provided as a stand alone system.

The A&RT system can be interfaced to Existing Line controls using simple isolated discrete I/O, field-bus systems, and/or Ethernet protocols to meet the customer's needs. Third party SCADA systems can be configured to collect production data from the Ethernet PLC/ and Cognex Camera if required. Line Control can be supervised by the inspection system, and configured on a product by product basis so that waste can be minimized.

Vision Server HMI provides the common interface to the Camera and PLC and Reject System. The open architecture of this system allows customers the capability to modify and add to the interface with minimal effort. The HMI system can cater for up to 5 user levels, so that personnel are restricted or granted access to the adjustments and settings of the Inspection System, ensuring your QC criteria is only adjusted by the appropriate person(s).

Manufacturing
3 / 28 Coombes Dr
Penrith, NSW 2749
Australia

Postal Address
PO Box 515
Cranebrook, NSW 2749
Australia

Telephone:
MOB: +61-418-373-577

Internet: <http://www.a-rt.com.au>
Email: info@a-rt.com.au





BENEFITS

With an A&RT inspection system, the immediate benefits are:

- A proven inspection system, utilizing top quality, components and engineering thought.
- A truly flexible system that can grow with future product changes.
- A reduction in Labor costs associated with QC measures.
- A reduction in product re-work, wastage, and recalls.
- A high level of confidence, knowing the system will perform as expected.
- A machine vision integrator with multi-disciplined experience that will get the best result for your application.

A&RT specializes in industrial automation and vision inspection, robot guidance. We have the capacity to engineer a custom solution to meet your specific needs.

We have the capability and equipment available to perform on-site or off-site trials, so your application will have a positive outcome. Call for an evaluation today.