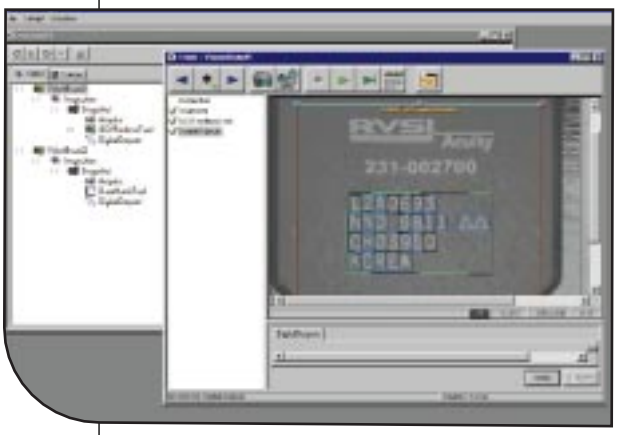
Visionscape™ Mark Inspection

Product Summary

The Visionscape™ Mark Inspection system is designed to meet the needs of semiconductor device manufacturers and other OEM equipment suppliers for comprehensive mark inspection. Built on the high-performance Visionscape™ machine vision platform, Visionscape™ Mark Inspection offers a proven solution for inspection of semiconductor packages marked using a variety of marking methods.

The Visionscape™ Mark Inspection system offers options for comprehensive high-performance mark inspection including missing characters, missing mark, illegible mark, incomplete characters, character voids, incorrect characters, wrong mark, double-struck mark, smeared mark, blurred mark, scratched mark, character breaks, low-contrast marks, over print, under print and mark orientation.



The system accommodates variable inter-character spacing, a common problem in pad marking. The system detects and inspects either the mark as a whole or each individual character without substantial performance degradation. Different inspection tolerances for different characters & groups of characters in the same mark can be defined. The system can inspect rotated parts and/or marks as well as multiple marks on a single part with different amounts of rotation. Alternative acceptable marks, such as date/lot codes, can be trained and logically OR'ed. Optional support for font-based inspection allows data-driven inspection of serialized marks and better discrimination for similar characters.

The Visionscape™ Mark Inspection system is delivered on the Acuity 2000 vision processor. This high performance vision processor used throughout the entire Visionscape product line delivers the functionality of a complete vision system in a single PCI bus slot of a host PC running Windows NT/95. It supports a variety of machine vision cameras and offers on-board accelerated vision processing, I/O, communications, networking, and display.

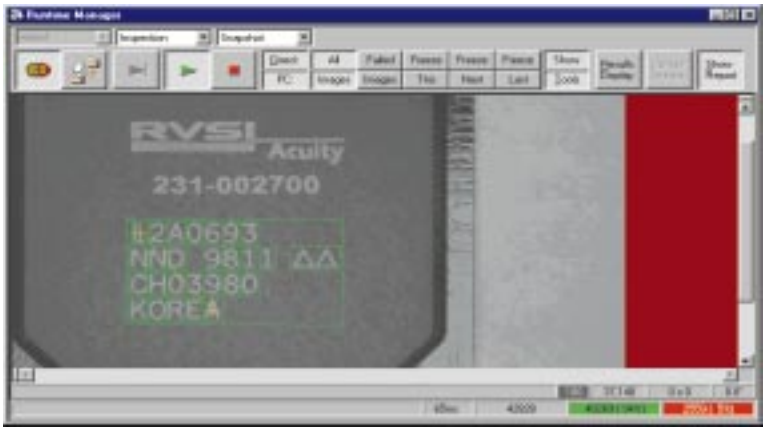
Features/Benefits

- **Comprehensive Mark Inspection options:**
  - **Missing Characters/Mark,**
  - **Illegible Mark,**
  - **Incomplete Characters,**
  - **Character Voids,**
  - **Incorrect Characters,**
  - **Wrong Mark,**
  - **Double-struck Mark,**
  - **Smeared/Blurred Mark,**
  - **Scratched Mark,**
  - **Character Breaks,**
  - **Low-Contrast Marks,**
  - **Over/Under Print,**
  - **Mark Orientation**
- **Accommodates variable inter-character spacing**
- **Inspect rotated parts and/or marks**
- **Inspect multiple marks with different rotation**
- **Train and logically OR different date/lot codes**
- **Allows different inspection tolerances for different characters or groups**
- **Optional support for font-based inspection**
- **Delivered on RVSI Acuity high-performance vision processors**
- **Special purpose lighting**

RVSI Acuity

RVSI CiMatrix

Visionscape™ Mark Inspection



The Visionscape™ Mark Inspection system offers a built-in Windows® NT/95 Graphical User Interface (GUI) for point and click mark training, parameter setting and run-time inspection monitoring.

The Visionscape™ Mark Inspection system is easily integrated into a wide variety of OEM products including marking equipment and part handling equipment. The GUI can be readily modified to seamlessly work alongside an OEM's existing interface.

Under the Visionscape™ architecture, ActiveX™ Controls encapsulate the core vision system functionality and user interface required to develop and deploy applications.

Users of the Visionscape™ Mark Inspection system get programming access to these ActiveX™ components which they can optionally use for customization by dropping the appropriate components into a Visual Basic® or Visual C++® application.

RVSI Northeast Robotics patented lighting modules designed specifically for mark & package visual inspection, ensure even illumination across the entire field of view thereby assuring the most accurate and repeatable measurements.

Host-PC Requirements

Pentium class CPU (266 MHz or higher), one open full length PCI slot, Microsoft Windows® NT 4.0 or Windows 95 operating system.

Acuity 2000 Vision Processor

- **Single slot PCI card**
- **High performance vision engine off-loads host PC**
- **Acuity ASIC accelerates all vision processing for throughput & robustness**
- **Multiple inspections per board & multiple boards per PC**
- **Supports analog & digital cameras**
- **On-board digital I/O, analog outputs, serial ports, display, and TCP/IP networking**

Visionscape™ Software

- **Broad collection of high-level vision and automatic identification tools**
- **Windows¤ NT/95 GUI for vision application development & deployment**
- **ActiveX™ components encapsulate functionality for easy customization with Visual Basic or Visual C++**
- **Open software architecture reduces integration costs, speeds time to market & deployment for OEM and factory floor users**

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