Visionscape™ Software

Product Summary

The Visionscape™ Software Environment for the Acuity family of vision processors encompasses proven complete solutions for many applications and vertical markets as well as intuitive point-and-click graphics environments for vision application development and deployment.

This 4th-generation vision platform tightly integrates hardware and software and is designed to meet the needs of both OEM and factory floor vision users.

Visionscape™ Architecture Speeds-up Application Development/Deployment

The Visionscape™ software architecture reduces vision application development & deployment time by offering:

• many complete high-level market/industry specific vision solutions

• a broad collection of proven tools optimized for speed, accuracy & robustness

• a step-oriented vision program definition environment for point-and-click development of complex vision applications and powerful built-in setup/runtime operator interfaces

• GUI customization using Microsoft Visual Basic® or Visual C++®

• a modern software component architecture that simplifies vision application development using easy to integrate building blocks (implemented as ActiveX™ controls) that encapsulate key aspects of a vision system's functionality and user interface.

Complete Visionscape™ Solutions for Vertical Applications/Markets

Such turn-key solutions include Visionscape™ BGA, Visionscape Mark Inspection and Visionscape Package Visual Inspection for the semiconductor industry; Visionscape I-Pak for pharmaceutical applications and Visionscape Auto ID for automatic identification applications.

Features/Benefits

• **Windows® NT support**

• **Complete solutions for many applications**

• **Broad collection of vision tools on a single platform**

• **Point-and-click GUI for vision application development and deployment by non-programmers**

• **Proven high-level vision tools optimized for speed, accuracy & robustness**

• **ActiveX™ components encapsulate vision system 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**

• **Supports the entire Acuity Vision Processor family**

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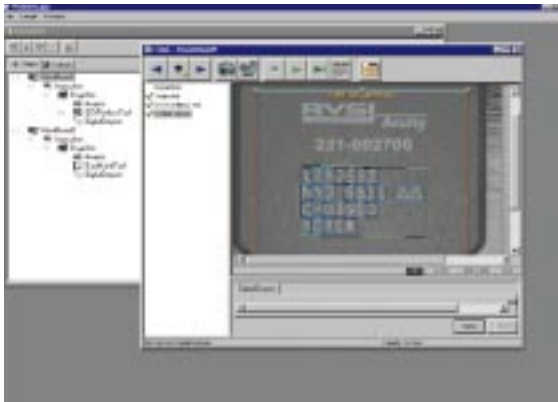
Broad Collection of High-Level Vision Tools

A broad collection of high-level vision tools already proven in thousands of machine vision applications and many new capabilities enabled by the performance of the latest generation of Acuity hardware are available. These tools allow the same board to be used in a wide variety of applications such as inspection, dimensional gauging, guidance, and identification. Examples of such tools include flaw detection tools for surface quality inspection, intelligent OCV (Optical Character Verification) tools for mark inspection and label verification, a broad collection of dimensional gauging tools for non-contact metrology, robust Data Matrix reading and bar code reading tools, neural network based trainable OCT, etc.

Optimized Low-Level Image Processing/Analysis Libraries

Strong foundation of low-level vision processing tools extensively optimized for accuracy, robustness, and speed:

- image preprocessing (image decimation, image resampling & flipping, image arithmetic, high and low pass filtering, mathematical morphology, etc.) and

- image analysis (area counting, gray scale histogram analysis, connectivity analysis, edge detection, projection, template matching, etc.)

All tools are accessible from a top level GUI for use by non-programmers as well as software libraries for developers.

Built-in Setup/Runtime Graphical User Interfaces
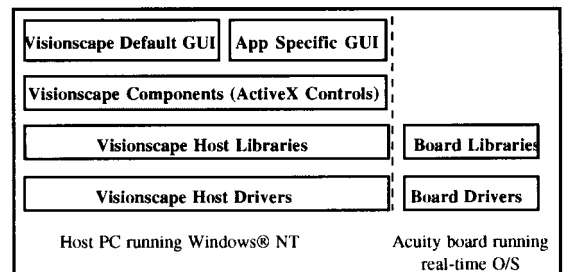
Such graphical user interfaces allow:

- Application engineers and system integrators without any programming skills to quickly develop and deploy complex vision applications in a point-and-click fashion by dropping appropriate tools into a vision program organized as a sequence of steps

- Installers and factory floor operators to select, setup and tryout preprogrammed applications and perform runtime monitoring/control of such applications.

The runtime interface enables downloading different applications onto the board, starting and stopping them, communicating results to the host PC and collecting, displaying and uploading failed images or providing other diagnostics to the user.

ActiveX™ Component Software Architecture

Under the Visionscape™ architecture, ActiveX™ Controls encapsulate the core vision system functionality and user interface required to develop and deploy vision applications. Examples include the Job and Program Managers used for creating and editing a vision application, the Setup Manager for training and trying out an application and the Runtime Manager for downloading, starting, stopping, and operator monitoring an application.

Users of the Visionscape™ Software Environment get programming access to these ActiveX™ components which they can use to develop custom systems by dropping the appropriate components into a Visual Basic® or Visual C++® application.

Visionscape Default GUI	App Specific GUI	
Visionscape Components (ActiveX Controls)		
Visionscape Host Libraries		Board Libraries
Visionscape Host Drivers		Board Drivers
Host PC running Windows® NT		Acuity board running real-time O/S

Specifications subject to change without notice.

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