



ViewFlex

An Innovation in Machine Vision

Intelitek has combined the latest vision and software technologies to create ViewFlex, an effective and affordable tool for teaching, training and research in machine vision.

ViewFlex includes interactive vision software that is based on the Inspector image processing engine and a USB digital color camera that provides both still and video images. The system is compatible for use with most digital cameras currently available.

ViewFlex can be used for stand-alone vision operations, integrated in Intelitek's CIM systems for vision-based quality control applications, or coupled with SCORBOT robots for vision-guided robotic tasks and QC processes.

The advanced features of **ViewFlex** allow users to implement scientific and industrial applications. **ViewFlex** software offers an extensive set of optimized functions for image processing and enhancement, blob analysis, gauging and measurement, and pattern matching. The system supports applications such as precision measurement, flaw detection and assembly inspection to enable compliance with exacting quality requirements.

ViewFlex enables students to design and develop their own vision applications using the software's Visual Basic for Applications (VBA) compatible scripting environment. The software can also interact with other Windows applications using OLE/Automation.

Whatever the configuration or application, **ViewFlex** is designed to ensure students' success in learning and applying machine vision technology.

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www.intelitek.com

ViewFlex Specifications

SOFTWARE

User Interface and Image Manipulation

- Easy-to-use interactive work environment
- Control scripts using custom dialog boxes
- Display color and monochrome images in a variety of predefined or custom formats
- Load and save images in many file formats (e.g., BMP, JPG, TIFF)
- Record and playback image sequences using AVI and multi-page TIFF file formats
- Annotate images with text and graphics
- Create and manage image databases

Image Processing Tools

- 3 colors histogram (display as bar, line or data)
- Extract band operation
- Filters: Predefined (Erode, Dilate, Open, Close, etc.) and User defined
- Threshold: (Band reject, Band pass, Low pass, High pass)
- Fast Fourier transformations
- Define and process non-rectangular regions of interest

Image Analysis Tools

- Color image analysis
- Pattern matching (with mask and rotate operations)
- Blob analysis
- Part identification by blob statistics
- Calibration (compensation for aspect ratio, rotation and other spatial distortion)
- Measurements (distance, angle, and area measurements with sub-pixel accuracy; measurements in real world units)
- Automatic movement detection

Full Support for Video and Internet Applications

- Take snapshots manually and automatically
- Record a video (and audio; requires Windows compatible sound card with speakers and microphone)
- Create a movie
- Create email postcards and web pages that incorporate videos, images, and/or sounds
- Make Internet video phone calls

Open Environment

- Easy integration with other Windows applications (client/server) using OLE/Automation: send vision data (OLE); call vision functions from users code (OCX); call user functions from the vision system (script, DLLs)
- Results easily transferred to Microsoft Excel or other Windows applications
- Automate routines with Microsoft Visual Basic or C compatible scripting

Integration with Intelitek and OEM Products

- Supports all Intelitek robot controllers
- Stand-alone system for machine vision and quality control
- Robot guidance in SCORBASE (ER 4pc and ER 4u robots)
- Robot guidance in ACL (ER 5, ER 7, ER 9, ER 14, SV3 robots)
- Supports full integration with OpenCIM software: part identification and quality control applications
- Supports barcode
- Supports optical character recognition (OCR)
- Supports remote camera and use of multiple cameras in the same vision application

HARDWARE

Color USB Camera

- Interface: Universal Serial Bus port
- Power: Supplied by USB port
- Image Sensor: Progressive Scan CCD type
- Effective Pixels: 640x480
- Field of View: 44 degrees
- Focus Distance: 25.4 mm (1 inch) to infinity
- Cable Length: 3 meters
- Frame Rate: Up to 30 fps for full-motion video

Still Images

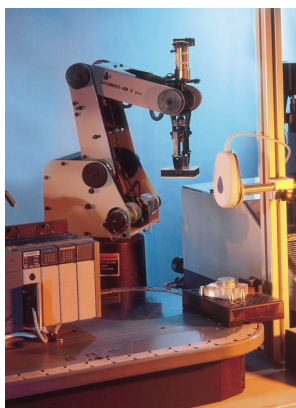
- Resolution: 640x480 (VGA), 24-bit (16.8 million colors)
- File Formats: JPG, BMP, FPX

Video

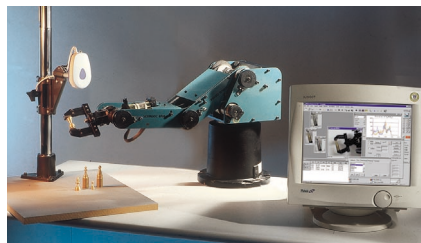
- Resolution: 640x480 (VGA) Captured
320x240 (VGA) Displayed
24-bit (16.8 million colors)
- File Formats: AVI, IVS

System Requirements

- Pentium II 350 MHz or higher
- 64 MB RAM or more
- 300 MB available on the hard disk
- USB port
- SVGA monitor
- Mouse or input device
- Windows 98/2000 operating system
- CD-ROM drive



Automated quality control with vision inspections



Integrated vision-robotic applications

