System Specifications**

**Description**
- Advanced software product for objective, automated evaluation of image quality
- TWAIN-compliant scanner (for scanner-based option)
- DirectX-compatible camera (for camera-based option)
- Stored file (BMP, JPEG, PDF (option), and many more)
- QEA's PIAS®-1000, automated PQ measurement system
- QEA PIAS®-II, portable PQ measurement system

**Image Sources**
- TWAIN-compliant scanner (for scanner-based option)
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- QEA's PIAS®-1000, automated PQ measurement system
- QEA PIAS®-II, portable PQ measurement system

**Analysis Tools**
- Dot and halftone
- Line and edge quality analysis
- Area attribute measurement
- Noise Power Spectrum (NPS)
- Banding analysis
- Spatial Frequency Response (SFR)
- Color registration
- Colorant coverage (option)
- OCR, Optical Character Recognition (option)
- Plug-in SDK for new tools and functions (option)

**Operating Modes**
- Interactive mode: interactively analyzes a single ROI (region of interest).
- Sequence (automated) mode: automatically analyzes multiple ROIs using a pre-defined sequence. The software’s Design Mode allows easy creation of sequences for any test target.
- Batch (automated) mode: analyzes a batch of images in automated mode. Analyses can be performed on saved image files or on images captured by an input device (such as a scanner or camera) under software control. Analysis results are displayed instantly. Data is entered in an Access database and can be exported to Excel or other applications.

**Reporting**
- Comprehensive results appear instantaneously
- Summary results are user-customizable
- Automated mode sends data to an Access database or text file; output data is user-selectable
- Data tables can be copied from IASLab or Access to Excel or other applications

- Graphical overlays are generated for contour boundaries
- Graphs are generated for many analyses - banding, SFR, NPS, etc.
- Images can be saved, with or without graphical overlays

**Applicable Standards**
- ISO 13400 PQ standard for line and area results
- ISO 12233 for SFR analysis

**Productivity Tools**
- Automated document feeder (ADF) support
- Double-sided print support (contact QEA for models)
- Automatic adjustment for sample misposition
- OCR for automatic reading of sample labels (option)

**Easy PQ measurements from 1 to 1,000,000**

1. Have a few quick measurements to make? Use Interactive Mode
   - 1) Drag an ROI (region of interest)
   - 2) Click on the desired analysis tool button
   - 3) View instantaneous results on screen
   - >1,000,000 Have a lot of measurements to make? Use Automated Mode

   - 1) Load the documents into a scanner with ADF
   - 2) Run an automated sequence that measures as many ROIs as you want
   - 3) Report results from Access or export to Excel or other software

**Specifications subject to change without notice.**

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If you are concerned with PQ measurement needs, we invite you to contact QEA’s application engineers to discuss your requirements.

**Examples**

1) An inkjet head manufacturer measures a pattern of dots and lines to see if the print head is working properly.
2) An inkjet ink or media manufacturer measures blocks of color and colored lines to check for mottle and bleed.
3) A laser printer manufacturer measures patterns of lines to check laser scanner and paper feeder performance.

We invite you to contact QEA’s application engineers to discuss your PQ measurement needs.

### Basic

- **Dot Tool**
  - Diameter, position, shape...
- **Line Tool**
  - Width, roughness, spacing...
- **Area Tool**
  - Density, mottle, graininess...
- **Color Registration**
  - Alignment of colors...

### Advanced

- **OCR Tool**
  - Can be used for sample ID...
- **NPS Tool**
  - Noise power spectrum...
- **Banding Tool**
  - Including VTF analysis...
- **SFR Tool**
  - Spatial frequency response...

### Why Do PQ Measurements?

PQ measurements are essential during development, manufacturing, and marketing of printing systems. These measurements determine whether the printer and components are working as expected.

**Examples**

1) An inkjet head manufacturer measures a pattern of dots and lines to see if the print head is working properly.
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**QEA IAS Products for Print Quality Evaluation**

- PIAS®-II portable image analysis system
- Scanner IAS® scanner-based image analysis system
- IAS®-1000 automated camera-based image analysis
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## System Specifications**

### Description
- Advanced software product for objective, automated evaluation of image quality

### Image Sources
- TWAIN-compliant scanner (for scanner-based option)
- DirectX-compliant camera (for camera-based option)
- Stored file (BMP, JPEG, PDF, etc.) and many more
- QEA IAS®-100® automated PQ measurement system
- QEA PIAS® II portable PQ measurement system

### Analysis Tools
- Dot and halftone
- Line and edge quality analysis
- Area attribute measurement
- Noise Power Spectrum (NPS)
- Bundling analysis
- Spatial Frequency Response (SFR)
- Color registration
- Colorant coverage (option)
- OCR, Optical Character Recognition (option)
- Plug-in SDK for new tools and functions (option)

### Operating Modes
- Interactive mode: interactively analyzes a single ROI (region of interest).
- Batch (automated) mode: analyzes a batch of images in an automated mode. Analysis can be performed on saved image files or on images captured by an input device (such as a scanner or camera) under software control. Analysis results are displayed instantly. Data is entered in an Access database and can be exported to Excel or other applications.

### Reporting
- Comprehensive results appear instantaneously
- Summary results are user-customizable
- Automated mode sends data to an Access database or test file; output data is user-selectable
- Data tables can be copied from IASLab or Access to Excel or other applications

### Applicable Standards
- ISO-13660 PQ standard for line and area results
- ISO-12233 for SFR analysis

### Productivity Tools
- Automated document feeder (ADF) support
- Doublesided print support (contact QEA for models)
- Automatic adjustment for sample misposition
- OCR for automatic reading of sample labels (option)

### Other Tools
- Image and data copying
- Saving and printing images, summary data, or detailed data
- Image manipulation - zoom in and out, flip and rotate
- Color channel selection for display
- Results selection
- Font size selection

### Computer Configuration
- High-performance PC
- RAM: 4 GB or more
- Available USB port
- Microsoft Windows® 7
- Microsoft Excel® and Access® 2007
- Scanner-based option: TWAIN-compliant high quality scanner (ADF optional)
- Camera-based option: DirectX-compliant digital camera or similar output device

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**Image Analysis System Laboratory**

IASLab is an advanced software product for objective, automated evaluation of image quality. Bundled with the PIAS®-II, Scanner IAS® and other QEA image quality analysis tools, IASLab is also available as a standalone software package. IASLab offers a comprehensive toolkit for measuring dots, lines, large areas, NPS, and many other salient image quality features. The software can be used in interactive mode to analyze a particular image element or in automated mode for sequential or repetitive analyses. Automated scan results are stored in an Access database for convenient analysis and reporting.

### Easy PQ measurements from 1 to 1,000,000

1. Have a few quick measurements to make? Use Interactive Mode

   ![Interactive Mode](image1)

   1) Drag an ROI (region of interest)
   2) Click on the desired analysis tool button
   3) View instantaneous results on screen

   ![Result Display](image2)

### >1,000,000

2. Have a lot of measurements to make? Use Automated Mode

   ![Automated Mode](image3)

   1) Load the documents into a scanner with ADF
   2) Run an automated sequence that measures as many ROIs as you want
   3) Report results from Access or export to Excel or other software

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