QUARTZ PCI FEATURES

Acquiring

- Options available to acquire images from virtually any image producing device including slow scan, TWAIN, video capture and digital file import.
- "Spider" system automatically loads images saved to a "hot" folder.
- Most popular file formats can be imported.
- Can import files, and retain calibration information, from several EM manufacturers.
- Support for 24-bit color and 8- and 16-bit grayscale images.
- Imports EMSA format x-ray spectra and can acquire spectra with our Quartz PCI XOne option.
- Common user interface for all image sources enhances ease of use.

Measuring

- Complete set of measurement tools for measuring distances, angles and shapes in the image.
- Values automatically update when measurements are adjusted with the mouse.
- Measurement results displayed in spreadsheet grid and can be easily pasted into Excel or other software.
- Numerous options for displaying arrow heads, extension lines, projections etc.
- Micron marker function for adding micron marker to images, such as from light microscope, that do not contain a micron marker.
- Measurement Sequence Function allows repeated sequence of measurements to be pre-programmed.

Archiving

- Images can be stored in most popular file formats including TIFF and JPEG.
- Workgroup Database included as a standard feature. Enterprise Database available as an option. Workgroup Database can be easily upsized to Enterprise version.
- Database tracks jobs, sessions, samples, images and external documents including multimedia files.
- Permits composition of sophisticated database queries.
- Robust record locking and file sharing in networked environments.
- "Send To" feature allows documents from other applications to be sent directly to the database.
- Scan feature automatically searches disks and network devices for images and allows them to be added to the database.
- ODBC compliance ensures compatibility with third-party tools such as Microsoft® Access.
- Burn CDs and DVDs from inside PCI
- Full support for removable media.
- Auto-Save Acquired Images.

Other

- Dual Monitor and Widescreen Support.
- Runs on Microsoft Windows XP, Vista™ and Windows 7.
- Runs on 64-bit operating systems.
- Output to any Windows®-supported printer.

Processing

- Image resizing and fine image rotation.
- Ability to reverse raster rotation, using angle information contained in image file.
- SEM resolution measurement.
- Image mixing using various arithmetic operators.
- "Plug-in" interface for user-developed processing and analysis code.
- Histogram functions for contrast, brightness and gamma adjustment.
- Smoothing, sharpening and median filtering functions.
- Display functions for zooming, panning, false coloring and slide show display.
- Construction of anaglyph stereo image from separate left and right images. Includes ability to align stereo pair.
- Spectrum zooming/scrolling with mouse wheel.
- Spectrum auto-scaling and default display region.
- Spectrum automatic peak labeling.
- Spectrum automatic peak identification.
- Spectrum KLM line markers.
- Spectrum cursor displays energy, counts and possible x-ray lines.

Annotating

- Complete set of tools for adding text, arrows and geometric shapes to images.
- Drawing tools operate on separate overlay layer. Overlay elements can be moved or deleted without interfering with each other or the underlying image.
- Drawing elements can be rotated.
- Grid overlay can be displayed on image.
- Default overlay burn-in option allows all images to be permanently marked, such as with company logo or confidential indicator.

Reporting

- Comprehensive built-in report editor.
- Permits layout of images, text and drawing elements.
- Any number of pages.
- Grid/Snap-to-grid features.
- Master page.
- Automatic population of database fields in the report.
- Automatic generation of reports from templates.
- Export reports in PDF or Microsoft Word and PowerPoint formats.
- Secure PDF Export.

PCI/CFR

- Acquires images and stores them consistent with the requirements of 21 CFR Part 11.
- Maintains an audit trail that records all changes to each image, retention of all versions of each image.
- Use of encryption and digests to ensure data integrity.
- And the ability to export data as digitally signed PDF files
- Works with the Windows security system to provide password protection, permissions and user roles.

QUARTZ PCI UPGRADE HISTORY

v. 6

New Report Lay-Out Editor
PCI Version 6 makes it easy to produce polished, professional reports.

PCI database fields can be placed on the report and automatically filled with database information pertaining to the associated image. Our image annotating tools are available for adding annotations to the report. Master pages and templates facilitate the development of standard reports for your organization, incorporating elements such as corporate logos.

Finished reports can be exported in the PDF file format for easy distribution to your colleagues and clients.

New PDF Image Export
Images can now be exported in the popular PDF file format for easy distribution.

New X-Ray Spectrum Viewing Functions
PCI now lets you view and annotate x-ray spectra,. Data from the Quartz XOne x-ray microanalysis system can be read directly and data from other vendor's equipment can be imported via the EMSA format. Tools are provided to identify elements, label peaks and add other annotations. Spectra can be exported as images and copied via the clipboard into other software packages.

New Job Security Management
If you change the security settings on a job, you can now choose to make the same security change to all of the underlying sample, session and data record and to the data files themselves.

v. 7

Improved Distance Measurement Function
The distance measurement function has been greatly improved.

Improved Micron Marker Function
If you adjust the length of the micron marker, the numeric label is also updated.

Rotation of Drawing Elements
It is now possible to rotate drawing elements, such as ellipses and rectangles.

New Measurement Tools
Area Measurement and Caliper Tools.

Spreadsheet Grid for Measurement Results
Measurement results are displayed in a spreadsheet grid that makes reviewing data or transferring it into Microsoft Excel easy.

Settings Saved on a User-by-User Basis
PCI v. 7 remembers certain settings on a user-by-user basis.

Data & Settings Consolidated in One Location
In a default installation, the database, the images and system systems are consolidated in one root folder to facilitate back-ups and moving the software to a new computer.

Reports Exported in Microsoft Word or PowerPoint Formats
If Microsoft Office is installed on your system, you can export reports in the native Microsoft Word or PowerPoint file formats, in addition to the Adobe Acrobat (PDF) format. Without Microsoft Office installed, you can export reports in the MHTM format for import into office on another system.

v. 8.5

Measurement Sequence Function
To help with making the same sequence of measurements on multiple images, PCI now allows you to program and save measurement sequence files Including, automatically selecting the appropriate measuring tools, adjusting their settings and labeling the measurements.

New and Improved Measurement & Drawing Tools
PCI now includes tools for measuring the areas and perimeters of polygons and freehand shapes, as well as a four point angle measurement tool which permits angles to be measured when the vertex is not inside the image. A drawing tool for closed freehand shapes has been added.

Burn CDs and DVDs from Inside PCI
PCI now allows you to export files directly to CDs and DVDs. Simply select the files to export and PCI will burn them directly to disc.

Recent Files Tab
A new tab has been added to the data manager that shows the images and other files that you have opened most recently. This makes it easy to reload data that you have been working with recently. In the case of the Enterprise database, the information on this tab follows the user. So, the images that you worked with in the lab will be immediately available on your office computer.

Improved Send-To Function
PCI now provides a more intuitive way to add external documents to the PCI database. The Send To function has been enhanced to include an icon on the desktop onto which the user can drag or paste files to have them added to the database.

Improved Image File Support
PCI's file import and export functionality has been improved to provide support for the latest file formats, including PNG and JPEG2000. JPEG2000 offers lossless compression to allow you to compress images with no loss of image quality.

Support for Large Images
The maximum image size supported by PCI is now limited only by system memory and whatever limitations are imposed by the particular file format used to save the images. This improves PCI's support for scanners and high resolution digital cameras.

Smooth Image Display
You can now choose to turn on smooth image display which uses interpolation and smoothing techniques to improve the display of reduced size images. This is particularly useful when PCI is used to display line art, including graphs and spectra.

Improved Image Resizing and Thumbnail Generation
PCI now uses bicubic interpolation instead of pixel replication to resize images. This improves the appearance of resized images. The same technique is applied to thumbnail generation, resulting in higher quality thumbnails.

Default Overlay Burn-In Option
PCI now provides an option to burn in the default overlay immediately upon image acquisition. This allows you to add a copyright or "Confidential" tag or any other information to your images automatically.

Runs on Microsoft Windows Vista and Windows 7
PCI Version 8 is the first version of PCI that supports Microsoft Windows Vista and Windows 7. It will also run on Windows NT, 2000 and XP.

v. 9

SEM Image Sharpness Measurement
Calculates the sharpness of SEM images in accordance with the FT and DR methods defined by ISO/TS 24597. Operates on single or multiple images. Integrated with the PCI Report Lay-Out Editor to produce custom formatted reports.

Image Mixing
In PCI slow scan on older instruments, you can acquire two images (say, secondary and backscatter) at the same time and mix them. PCI now lets you mix any two images after they have been acquired.

Auto Save Images
You can now set PCI to auto-save images as soon as they are transferred from the instrument. This saves operator time and reduces the possibility of data loss.

Poly line and Freehand line Measurement
We are continually adding and improving the measurement tools in Quartz PCI.

Fine Image Rotation
This allows users to raster rotate the image on the SEM and reverse the raster rotation in PCI prior to measurement. Version 9 can even be set to read the raster rotation from the instrument data and automatically reverse it.

Overlay a Grid on an Image
This is useful for adjusting the rotation of the image, in conjunction with our new image rotation function. It is also helpful for counting features in an image to be able to divide the image into sections.

Other
Recognizing .JPEG and .TIFF file name extensions
Keeping different pen & fill colours for images and reports
Improved dual monitor and widescreen support
Version 9 is compatible with the latest Windows operating system (Windows 7) in both 32-bit and 64-bit versions.