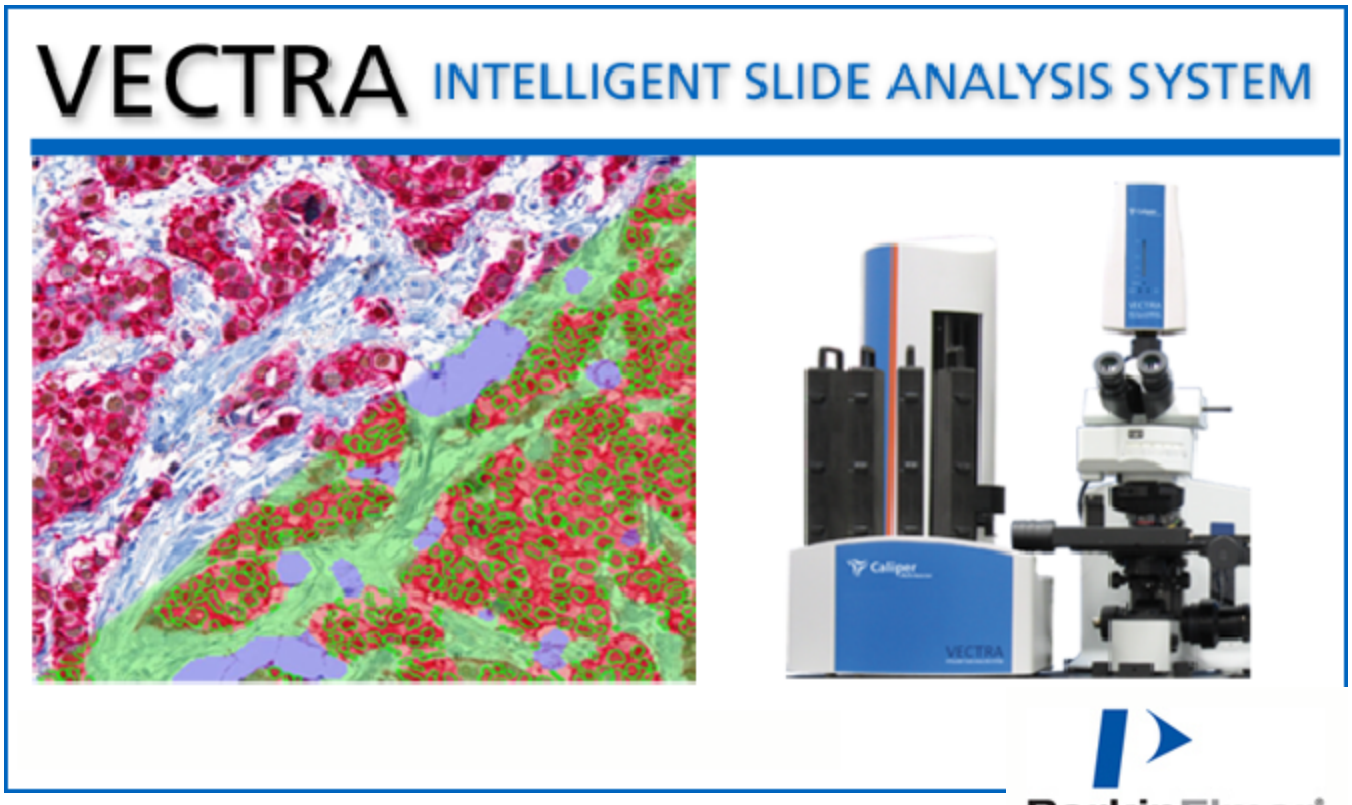
User's Manual for Vectra Review V1.0.5



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This manual describes Vectra Review version 1.0.5 software.

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Table of Contents

1 Welcome To Vectra Review

The topics in this section provide general information about Vectra Review V1.0.5 software, what it is used for and the system requirements for installing Vectra Review.

1.1 The Vectra Review Software

Vectra Review is an application used to quickly annotate or review tissue or cellular images generated by Vectra systems. Single slides or batches of slides can be annotated or reviewed.

Annotating low-resolution images in Vectra Review specifies the locations where high-resolution images will be taken by Vectra. Slides are scanned with a Prescan Only protocol in Vectra (prescanned slides) to generate the low-resolution images. Vectra Review is then used to specify the desired locations of the high-resolution images. The size of the high-resolution images and the objective used to take the images is selected in Vectra Review. The annotated slides are then processed in Vectra to generate the high-resolution images.

Reviewing high-resolution images in Vectra Review specifies the High Power Fields (HPFs) to send to inForm or AQUA software for processing. Slides are scanned in Vectra to generate the HPFs. Vectra Review is then used to select the areas of interest and to send the selected HPFs to inForm for analysis or to AQUA for processing. Rejected or unreviewed HPFs are not processed by inForm or AQUA.

For information about annotating prescanned slides, see The Vectra Review Annotation Workflow 5.

For information about reviewing slides for inForm, see The Vectra Review to inForm Workflow 5.

For information about reviewing slides for AQUA, see The Vectra Review to AQUA Workflow 5.

1.2 The Vectra Review Annotation Workflow

Use Vectra Review to annotate prescanned slides to select HPF regions to take high power images.

The steps below describe how to prescan, annotate the low-resolution images, and complete the Vectra scan.

1. Slides are prescanned using the Vectra software on the Vectra system computer. Slides are stored in the Vectra Data folder on the Vectra system computer or a Vectra File Server.
2. Prescanned slides are annotated using Vectra Review.
3. When the annotation is complete, use an Operator-Specified Regions protocol in the Vectra software to take the selected high power images.

For details, see Annotating a Prescanned Slide 11.

1.3 The Vectra Review to inForm Workflow

Use Vectra Review to accept or reject specific High Powered Fields (HPFs) on Vectra slides before the slides are processed by PerkinElmer's inForm software.

The steps below describe how images are processed from the Vectra software to the inForm software.

1. Slides are acquired using the Vectra software on the Vectra system computer. Slides are stored in the Vectra Data folder on the Vectra system computer or a Vectra File Server.
2. Slides are reviewed using Vectra Review on one of the Vectra Review computers.
3. When the review is complete, slides can be opened in inForm (V2.0 or later) for batch processing.

For details, see Reviewing a Slide 14.

1.4 The Vectra Review to AQUA Workflow

Use Vectra Review to accept or reject specific High Powered Fields (HPFs) on Vectra slides before AQUA scores are generated.

The steps below describe how images are processed from the Vectra software to the AQUA software.

1. Slides are acquired using the Vectra software on the Vectra system computer. Slides are stored in the Vectra Data folder on the Vectra File Server.
2. Slides are reviewed using Vectra Review on one of the Vectra Review computers.
3. When the review is accepted, Vectra Review uses AQUAduct Runner software with AQUAduct software to send the files to AQUA for processing. (For details about AQUA processing, see Vectra Review with AQUA Software 23.)

For details, see Reviewing a Slide 14.

The graphic below shows a large system where the Vectra software is on one computer, the Vectra file server, AQUAductRunner and AQUAduct are on a second computer, AQUAServe is on a third computer, and Vectra Review runs on multiple client computers.

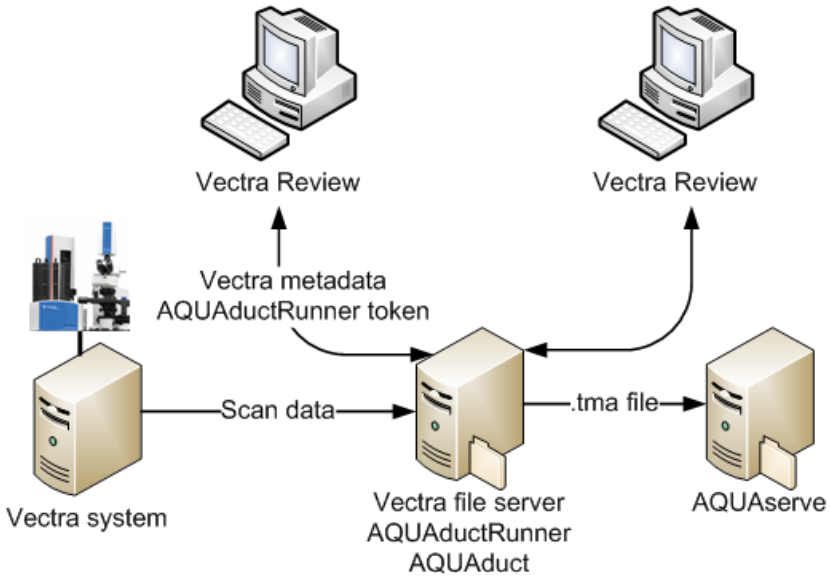

Figure 1. System Network Connections

In the smallest systems, Vectra, Vectra file server, AQUAductRunner, AQUAduct and AQUAServe can all be installed on the same computer. Vectra Review can be on the same computer or on client computers.

1.5 System Requirements

The computer on which Vectra Review is installed must meet the requirements below:

Operating System	US English Windows™ 7 (32-bit or 64-bit)
	.NET 4.5
RAM	2GB RAM on 32-bit, 4GB RAM on 64-bit
Video Display	1280 x 768 minimum, 1920 x 1080 recommended
Network Access	Connection to network if images are stored on a network location
User Rights	User must have Read and Write permission for the Vectra Data folder.
	If using AQUA for post-processing, user must have Read and Write permissions for the AQUAductRunner Watch folder.

This version of Vectra Review software was tested with the following software:

Vectra V2.0.8, AQUAduct V1.0.5, inForm V2.0.1, and Nuance V3.0.2

Other software configurations were not tested and are not supported.

1.6 About This Manual

This manual describes the use and functionality of PerkinElmer's Vectra Review software. Operating instructions, functional descriptions, troubleshooting, and other relevant information are contained in this manual.

Design Change Disclaimer

Due to design changes and product improvements, information in this manual is subject to change without notice. PerkinElmer reserves the right to change product design at any time without notice to anyone, which may subsequently affect the content of this manual. PerkinElmer will make every reasonable effort to ensure that this User's Manual is up to date and corresponds with the shipped Vectra Review software.

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1.7 Contact PerkinElmer

If you experience any difficulty installing, setting up, or using Vectra Review, please contact PerkinElmer Technical Support. Office hours are 8:00 a.m. to 8:00 p.m. (Eastern Standard Time), Monday through Friday.

- Telephone: 800-762-4000 or +1 203-925-4602
- Fax: +1 203-944-4904
- Email: global.techsupport@perkinelmer.com.
- Website: www.perkinelmer.com

2 Slide Processing Tutorial

Reviewing or annotating slides is very easy using the Vectra Review software. This tutorial explains how to review or annotate slides. Before starting, you must know the location of the Vectra slide data files.

2.1 Starting Vectra Review

To start Vectra Review:

1. Double-click the Vectra Review icon on the desktop. The Vectra Review software starts as shown in the figure below.

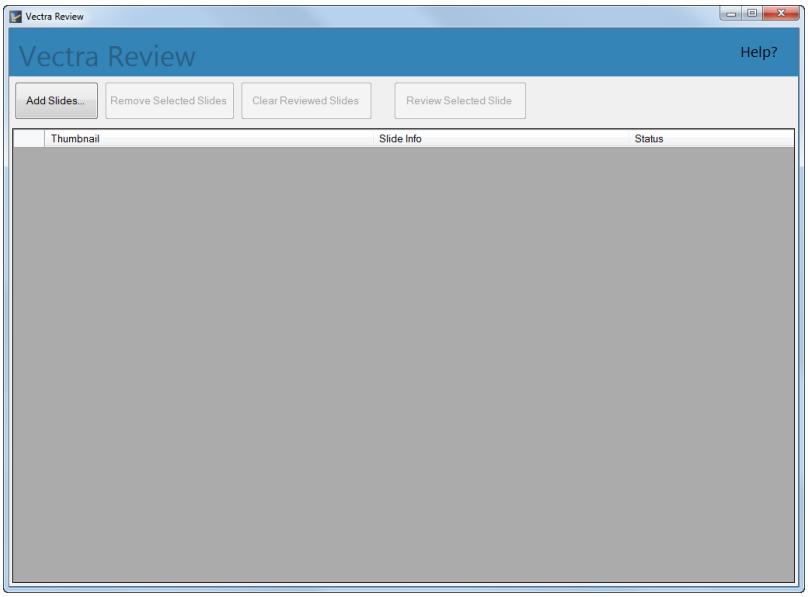

Figure 2. Slide List Window, Empty

2. If there are no slides in the Slide List, you are prompted to add slides. To add slides, click the **Yes** button in the prompt dialog and see Adding Slides 9.

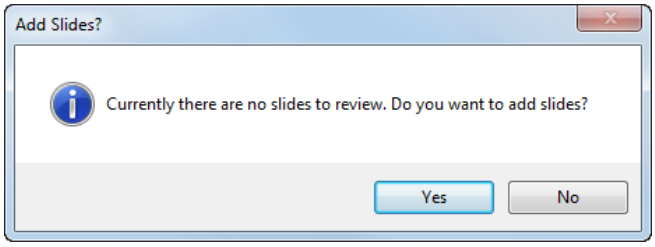

Figure 3. Add Slides Prompt

2.2 Adding Slides

Add slides to the Slide List by clicking **Yes** in the Add Slides Prompt Window or clicking the **Add Slides button** on the Slide List Window. The Select Slide Window opens the last selected location if the location is in the current domain. If the last selected location was in a different domain, the computer desktop opens.

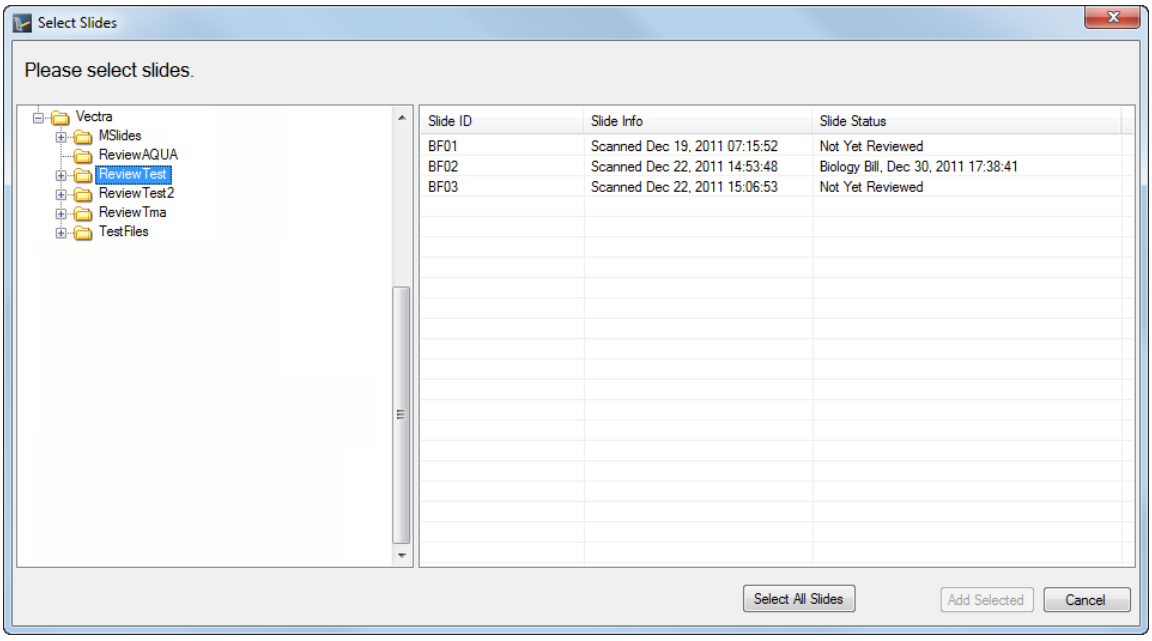

Figure 4. Select Slide Window

To add slides to the Slide List Window:

1. In the left side of the window, navigate to the folder that contains the slides.
2. In the right slide of the window, select the slides to add:
   - To select a single slide, **click** the slide name.
   - To select multiple individual slides, **Ctrl + click** the desired slide names.
   - To select a block of slides, click to select the first slide and then **Shift + click** the last slide.
   - To select all slides in a folder, click the **Select All Slides** button.

   Sort the slides in the folder by clicking the Slide ID, Slide Info, or Slide Status column header.
3. Click the **Add Selected** button. The Add Selected button is only enabled if at least one slide is selected.

Note: The same slide cannot be added multiple times. If any slides are already in the slide list, Vectra Review displays a dialog with the names of the slides that are already in the list.

4. The selected slides display in the Slide List Window as shown in the figure below. New slides are added to the bottom of the slide list. The order cannot be changed.

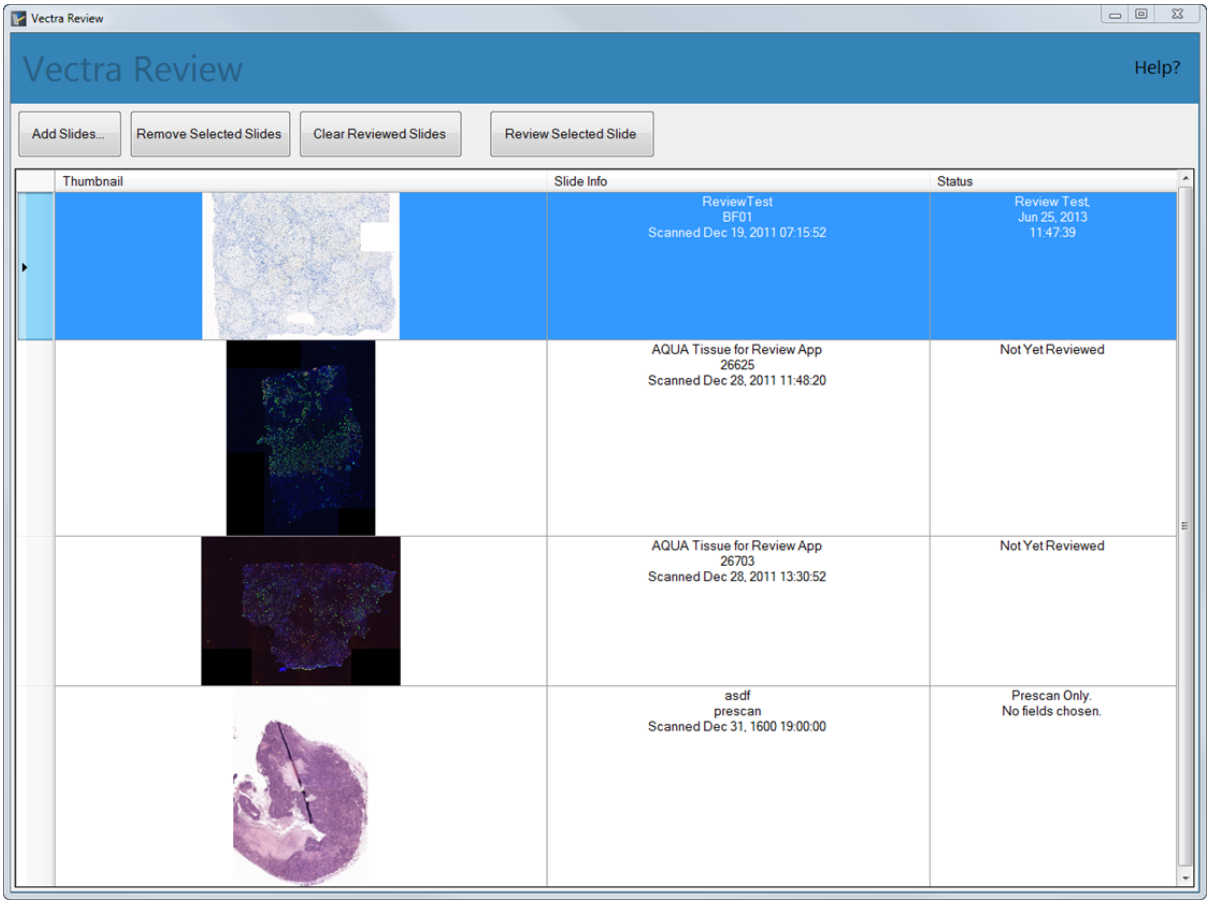

Figure 5. Slide List Window with Slides

5. For each slide in the slide list, the following information displays:
   - **Thumbnail**: Displays a small graphic of the entire slide to help identify the slide.
   - **Slide Info**: Displays the Lab ID, Slide ID, and the date and time when the slide was scanned.
   - **Status**:
     - If the High Power scanned slide has not been reviewed, displays **Not Yet Reviewed**.
     - If the High Power scanned slide has been reviewed, displays the **Reviewer ID, and the date and time** when the review was accepted.
     - If the prescanned slide has not been annotated, displays **Prescan Only. No fields chosen**.
     - If the prescanned slide has been annotated, displays **Prescan Only, the number of fields chosen, and the date and time** when the annotations were accepted.
6. To remove slides, see Removing Slides 11.
   To review a slide, see Reviewing a Slide 14.
   To annotate a prescanned slide, see Annotating a Prescanned Slide 11.

2.3 Removing Slides

You may want to remove slides from the Slide List window.

To remove specific slides from the Slide List window:

1. Click anywhere in the row to select a slide.
2. Ctrl + click to select multiple individual slides.
3. Shift +click to select a block of slides.
4. Click the **Remove Selected Slides** button or press the **Delete** key.
5. Click the **Yes** button in the **Remove Slide** dialog. The slide is removed from the slide list. The slide data is not deleted or changed, the slide is only removed from the slide list.

To remove all reviewed slides from the Slide List window:

1. Click the **Clear Reviewed Slides** button.
2. Click the **Yes** button in the **Clear Reviewed Slides** dialog. All slides that have been reviewed are removed from the slide list.

When you are ready to review or annotate the slides in the Slide List Window, see Reviewing a Slide 14 or Annotating a Prescanned Slide 11.

2.4 Annotating a Prescanned Slide

Annotating a prescanned slide allows you to specify the locations of HPF regions on the slide. Each HPF region will result in a single high-resolution image. The size of each HPF region is based on the number of HPFs (High Power Fields) that make up the image. The objective to use when taking the high-resolution images is also specified. HPF regions can be resized or removed.

To select the locations of the high-resolution images:

1. Select a prescanned slide to be annotated in the Slide List Window and then either click the **Annotate Selected Slide** button, press the **Enter** key, or double-click the slide. The selected slide opens in the Annotation Editor window, as shown in the figure below. The Lab ID and Slide ID display above the slide image. For prescanned slides, Field always displays **Whole Slide**.

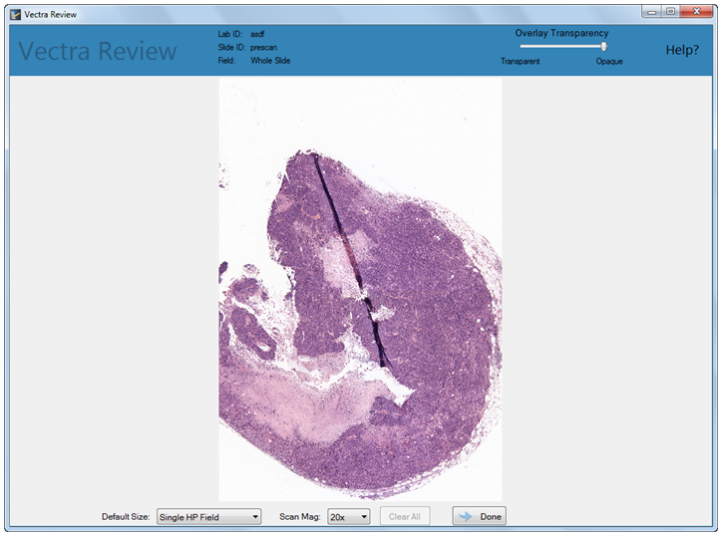

Figure 6. Annotation Editor Window

For fluorescent slides, the exposure times display above the slide image as shown below.

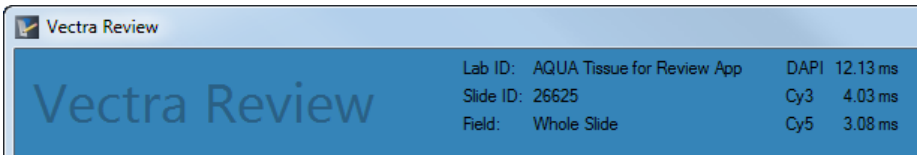

Figure 7. Annotation Editor Window, Fluorescent Slides

2. Use the **Field Overlay Transparency** slider to adjust the HPF regions on the image from Transparent to Opaque as desired. The selected transparency is applied to all HPF regions.

3. Select the level of magnification in the **Scan Mag** drop-down list. The corresponding objective lens must be installed on the Vectra instrument and the same objective must be selected in the Vectra Operator-Selected Regions protocol. To change the magnification after HPF regions are already selected, see Changing Magnification 13.

4. Adjust the view as desired:

   - Use the mouse wheel to zoom in and out on the image.
   - Click and drag to pan around the image at the current zoom level.

5. Select the desired size of new HPF regions in the **Default Size** drop-down list. New HPF regions will contain the selected number of HPFs (High Power Fields). Existing HPF regions are not affected. Each HPF region will result in one image.

   - Single HP Field - The resulting image will be the size of a single HPF.
   - 2 Stacked HP Fields - The resulting image will be the size of two HPFs, one above the other.
   - 2x2 HP Fields - The resulting image will be the size of four HPFs, in two rows and two columns.
   - 3x3 HP Fields - The resulting image will be the size of nine HPFs, in three rows and three columns.
   - 4x4 HP Fields - The resulting image will be the size of sixteen HPFs, in four rows and four columns.

6. Click on the image to create a new HPF region. The HPF region is centered on the location of the cursor. A new HPF region cannot be centered in another region or contain the center of another region.
7. Repeat steps 4 through 6 to add the desired HPF regions to the slide.
8. Right-click on an HPF region to remove the region or change the size of the region.
9. To clear all HPF regions, click the **Clear All** button. Click the **OK** button in the Clear All Locations window.
10. When all desired HPF regions have been created, click the **Done** button. The Save Annotations Window opens.

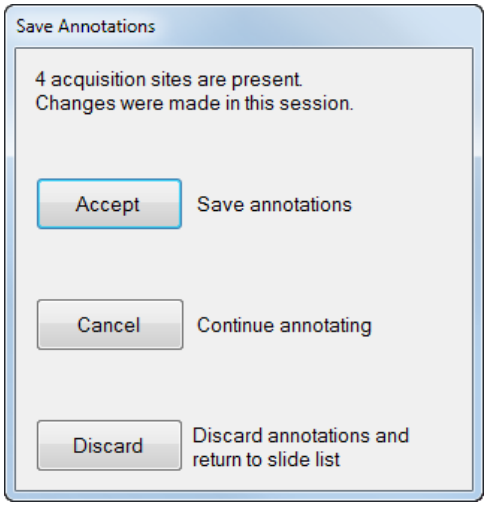

Figure 8. Save Annotation Window

11. **To complete the annotation:**

    To save the annotations, click the **Accept** button. The annotations are saved, the Annotation Editor window closes, and the Slide List window opens.

    To continue annotating the same slide, click the **Cancel** button. The Annotation Editor Window displays the same slide with the annotation in process.

    To close the Annotation Editor Window without saving the annotation and to discard all changes made during the annotation, click the **Discard** button. The Slide List window opens.

12. Select the next slide to be annotated and repeat from step 1 above until all of the desired slides have been annotated.

Changing Magnification

The Scan Mag specifies the objective that will be used to take the high power images after the annotations are complete. All high power fields on a slide must use the same objective. If HPF regions have already been selected on the slide, and the Scan Mag field is changed to a different objective, you must decide how the system should adjust the existing HPF regions.

In the Objective was Changed window, select the desired option:

- **Keep Size** - The system attempts to keep the size of the original HPF regions. The number of HPFs in the region is increased or decreased to match the original area as closely as possible.

Some HPF regions may grow or shrink.

- **Grow/Shrink** - The number of HPFs in each HPF region remains the same. The area covered by the HPF region grows or shrinks, based on the new objective.
- **Cancel** - Cancels the change to the new magnification.

2.5 Reviewing a Slide

Reviewing a slide allows you to select specific data for studies, remove errant fields, and directly sub-sample the data. Each High Powered Field (HPF) can be accepted or rejected. Accepted HPFs can then be processed by Inform or AQUA when the review is complete.

To review the HPFs on a slide:

1. Select a slide to be reviewed in the Slide List Window and then either click the **Review Selected Slide** button, press the **Enter** key, or double-click the slide. The selected slide opens in the Field Review Window.

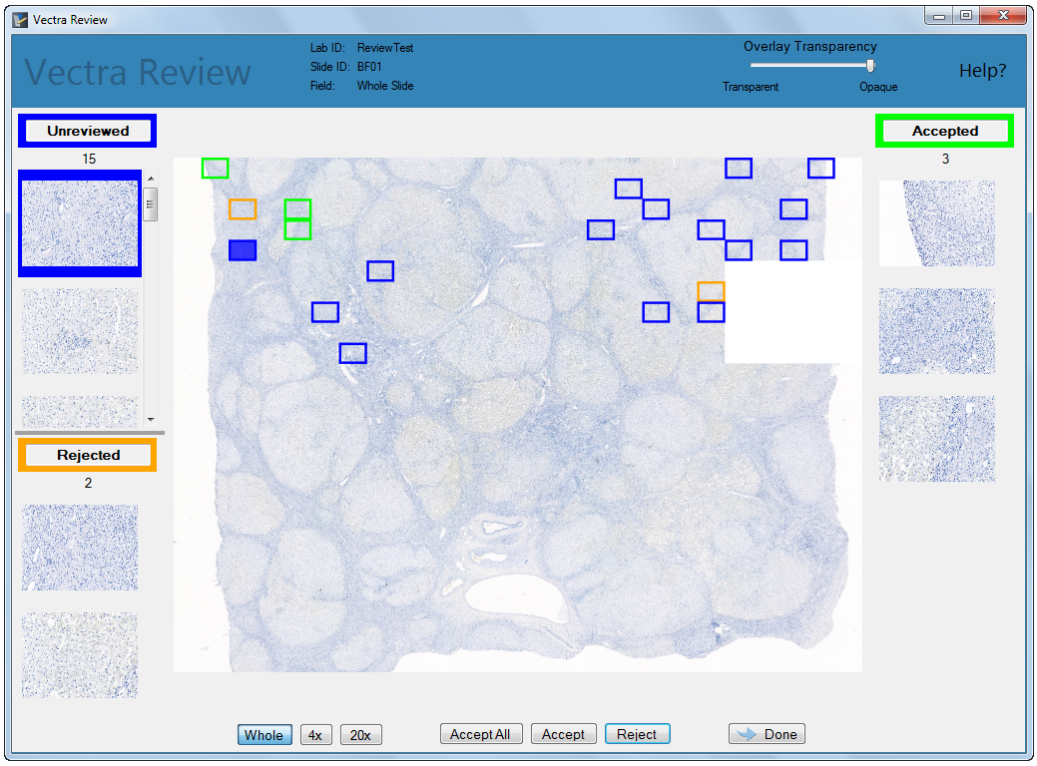

Figure 9. Field Review Window, Brightfield Slides

2. The Lab ID, Slide ID and Field display above the slide image. For fluorescent slides,exposure times display above the slide image as shown in the figure below.

   Field: Displays the file name of the 4x or 20X image being viewed. Displays Whole Slide when viewing the low-resolution image of the Whole Scan area.

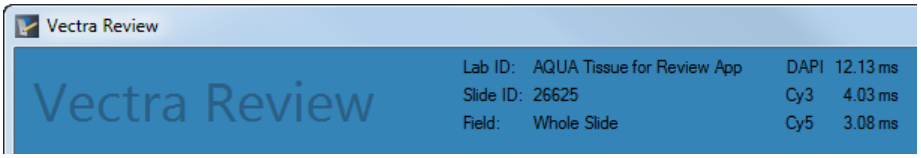

Figure 10. Field Review Window, Fluorescent Slides

NOTE: In 4x view, Field displays the filename of the 4x image that contains the selected HPF.

If the slide has not been reviewed, a thumbnail of each HPF displays along the left side of the window under Unreviewed. If the slide has already been reviewed, HPFs may already be listed under Accepted or Rejected. The color of the outline around each HPF indicates the approval status. Different colors are used for fluorescent and brightfield images:

- **Fluorescent:** Unreviewed = Light Blue, Accepted = Green, Rejected = Pink
- **Brightfield:** Unreviewed = Dark Blue, Accepted = Green, Rejected = Orange

3. Select an HPF of interest, either by selecting the thumbnail on the left side of the window or by clicking the region on the slide.
4. Use the **Field Overlay Transparency** slider to adjust the HPF outlines on the image from Transparent to Opaque as desired. The selected transparency is applied to all views: Whole slide, 4x, and 20x.
5. Click either the **4x** or **20x** button to view the LPF (Low Powered Field) or HPF for the region. The LPF shows an outline of the HPF. Click **Whole** to view the entire slide. (Right-clicking on HPFs in the 4x view or the 20x view displays a shortcut menu to change the view.) Clicking the 20x button displays the color image unless the software is set up to display unmixed HPFs. See Viewing Unmixed HPFs in 20x View 18.)
6. **To accept the selected HPF,** click the **Accept** button at the bottom of the window, or press the right arrow key. The thumbnail moves to the Accepted column on the right side of the window. Accepted HPFs are outlined in green on the slide.
7. **To reject the selected HPF**, click the **Reject** button at the bottom of the window, or press the left arrow key. The thumbnail moves to the Rejected column on the lower left side of the window. Rejected HPFs are outlined in pink for Fluorescent slides or in orange for Brightfield slides.
8. **To accept all unreviewed HPFs on the slide**, click the **Accept All** button. (Rejected HPFs remain in the Rejected list.)
9. When all desired HPFs have been accepted or rejected, click the **Done** button. The Approve Review Window opens.

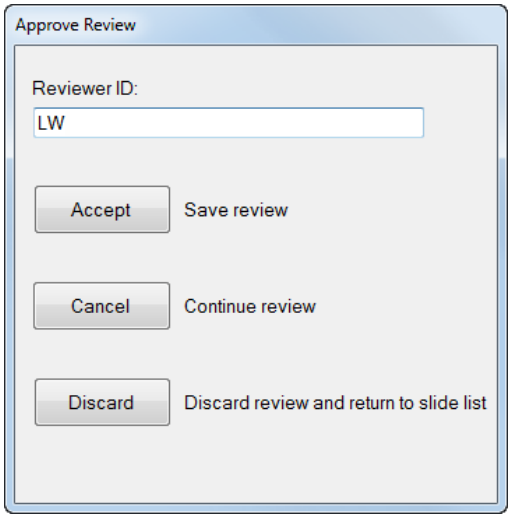

Figure 11. Approve Review Window

10. To complete the review:

- Type the **Reviewer ID.** The Reviewer ID can be a name, initials, or a Lab ID, according to the lab's Standard Operating Procedure (SOP). The ID is required to complete the review.
- For non-AQUA slides, click the **Accept** button to save the review.
- For Fluorescence AQUA slides that are reviewed for the first time, click the **Submit** button to submit the slide to AQUAServe for scoring. (At least one field must be accepted.)
- For Fluorescence AQUA slides that have already been reviewed and no changes have been made, click the **Approve** button to approve the last review without any changes.
- For Fluorescence AQUA slides that have already been reviewed and there have been changes made to the selections, click the **Resubmit** button to approve the review and resubmit the slide to AQUAServe for scoring. (At least one field must be accepted.)

Important: When using Vectra Review with AQUA, the slide is sent to AQUAServe when you click the Submit or Resubmit button. You should complete the slide review before submitting or resubmitting the slide.

To continue reviewing the same slide, click the **Cancel** button. The Field Review Window displays the same slide with the review in process.

To close the Field Review Window without marking the slide as reviewed and to discard all changes made during the review, click the **Discard** button.

11. Select the next slide to be reviewed and repeat from step 1 above until all of the desired slides have been reviewed.

Field Review Shortcuts

The following keyboard shortcuts are available in the Field Review Window:

Keyboard shortcut	Function
Right Arrow Key or the I Key	Accepts the HPF selected in the Unreviewed or Rejected list
Left Arrow Key or the K Key	Rejects the HPF selected in the Unreviewed or Accepted list
Up or Down Arrow Keys	Scrolls through the HPFs in the Unreviewed list, Accepted list, or Rejected list
J Key	Scrolls up through the HPFs in the Unreviewed list, Accepted list, or Rejected list
L Key	Scrolls down through the HPFs in the Unreviewed list, Accepted list, or Rejected list

Double-clicking an HPF in the Unreviewed list, in the Rejected list, or on the Image View displays the HPF at 4x.

Double-clicking an HPF in the Whole Slide Image View displays the HPF at 4x.

Double-clicking a 4x HPF in the Image View displays the HPF at 20x.

Right-clicking an HPF in the Accepted list displays a shortcut menu to Reject or Unreview the HPF or to change the view.

Right-clicking an HPF in the Rejected list displays a shortcut menu to Accept or Unreview the HPF or to change the view.

2.6 Viewing Unmixed HPFs in 20x View

Vectra Review can display inForm's unmixed imagery in the Field Review 20x view for better signal separation and visualization. Unmixed HPFs are only available for high power slides scanned in Vectra V2.0.6 or higher, with the Create Unmixed Images for Vectra Review check box selected on the Post Processing tab on the Settings window. If the changes below are not made, the HPFs in Vectra Review will display the color image. Slides acquired with Vectra V2.0.5 or earlier always display the HPF color image.

To view Unmixed HPFs for all images, instead of the color HPFs, edit the Vectra Review configuration file as described below:

1. Close the Vectra Review software.
2. Open the VectraReview.config file in any text editor (Notepad, Word, etc.). The VectraReview.config file is located in C:\ProgramData\PerkinElmer\VectraReview. (Program Data is a hidden folder. Turn on View Hidden Files and Folders or type the path directly into Windows Explorer.)
3. Add the following two lines to the config file. The two lines must be together, with the <Configuration-k> line first. Composite is the name of the folder in the HPF\ReducedRes\ folder that contains the unmixed images from Vectra. Do not put the two lines between any existing <Configuration-k> and <Configuration-V> pair.
   <Configuration-k>HPFsLocation</Configuration-k>
   <Configuration-v>Composite</Configuration-v>
4. Save and close the config file.
5. Open the Vectra Review software and add a slide that was imaged with the **Create Unmixed Images for Vectra Review** check box.
6. Select the slide and click the **Review Selected Slide** button.
7. Select an HPF on the Field Review window and click the **20x** button. The large image of the HPF displays the unmixed image instead of the color image.

Note: If Unmixed Images for HPFs is set up, and the \Composite folder does not exist for the selected slide or any composite image is missing, a message box informs you that the 20X images will display RGB images instead of Unmixed images. The error message displays when the slide is opened in the Field Review window.

3 Troubleshooting

This section lists some error messages that may display in Vectra Review and solutions or explanations of the errors.

3.1 Unable to Start Post-Processing

An "Error Starting Post-Processing" dialog displays if Vectra Review cannot locate the AQUAductRunner Watch folder or if the folder location has not been configured.

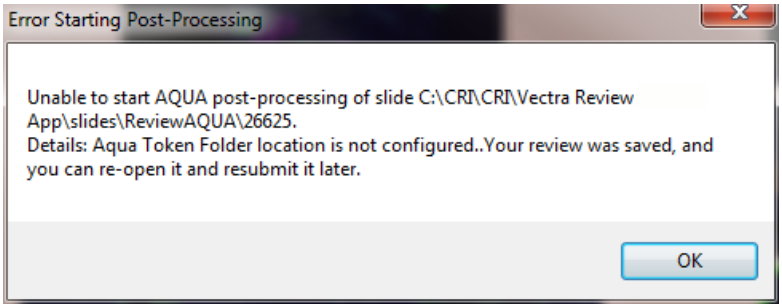

Figure 12. Error Starting Post-Processing

The AQUAductRunner Watch folder location should be configured when Vectra Review is installed. If the folder has been moved or removed, contact your company IT department or the person responsible for administering the AQUA software.

4 Appendix A: Installing Vectra Review Software

The Vectra Review software can be installed and activated on any computer that meets the System Requirements 6 and that can access the network location where the slides are located. If AQUAduct is being used, the user must also have Read and Write permissions to the AQUAductRunner Watch folder.

1. Verify Vectra software is already installed.
2. If using Vectra Review with inForm, verify inForm software is installed.
3. If using Vectra Review with AQUA, see Vectra Review with AQUA Software 23 for the order of software installation.
4. Close all open programs, including Vectra if it is installed.
5. Download the Vectra Review software setup file onto the computer and double-click the **Setup.exe** icon.
6. If the User Account Control Window asks to allow the Vectra Review program to make changes to this computer, click **Yes**. The Welcome Window opens.

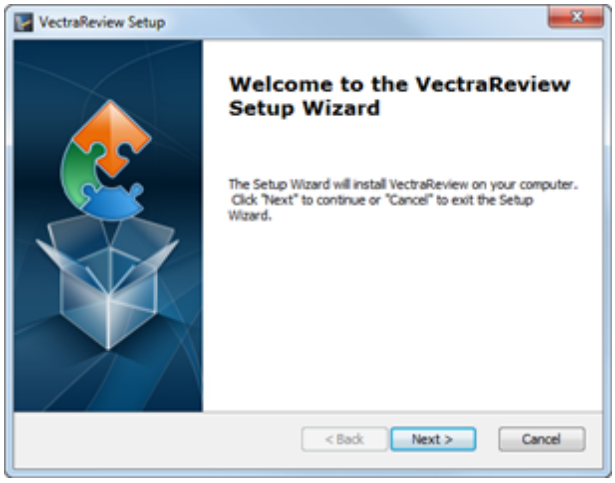

Figure 13. Welcome Window

7. Click **Next** in the Welcome Window. The End-User License Agreement Window opens.

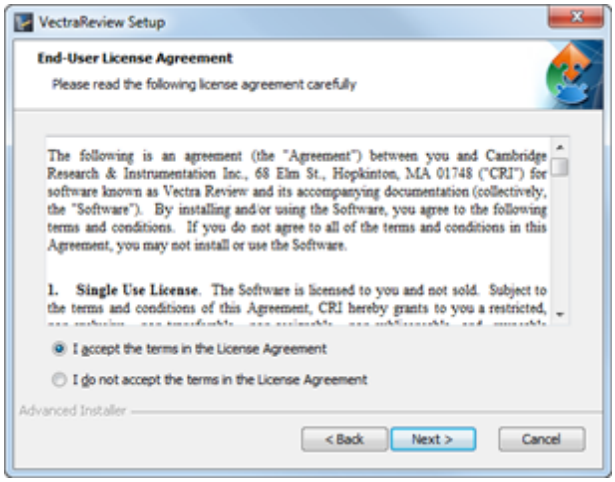

Figure 14. End-User License Agreement Window

8. Click the **I accept the terms in the License Agreement** option. Click **Next** in the End-User License Agreement Window. The AQUAductRunner Watch Folder Window opens.

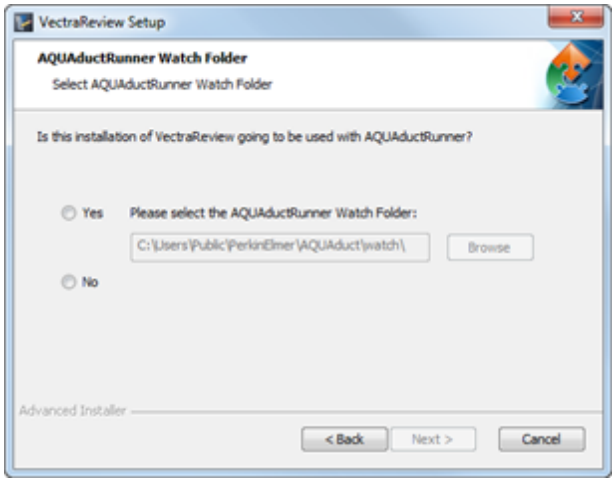

Figure 15. AQUAductRunner Watch Folder Window

9. Choose whether the AQUAductRunner software is going to pre-process approved regions. If AQUAductRunner software is used, specify the path to the folder that will be monitored by AQUAductRunner.

- For Windows 7, the default is C:\Users\Public\PerkinElmer\AQUAduct\watch
- For Windows XP, the default is C:\Documents and Settings\All Users\Application Data \PerkinElmer\AQUAduct\watch

10. Click **Next**.The Ready to Install Window opens.

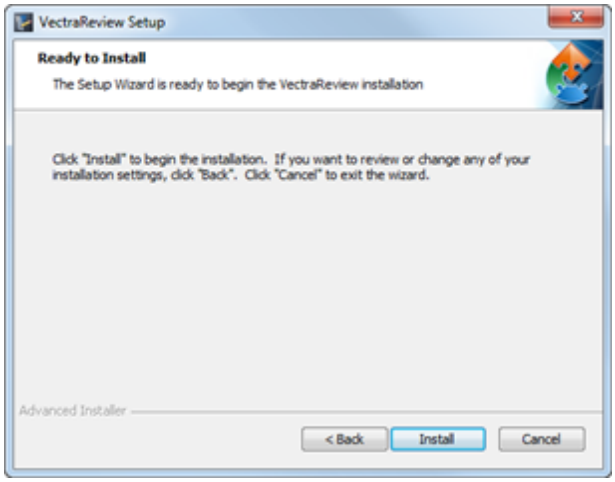

Figure 16. Ready to Install Window

11. Click **Install** to begin the Vectra Review installation.

12. When setup is complete, click **Finish** to exit the wizard.

Vectra Review with inForm Software

Configuration Parameters

The following information is required to set up each software application. When each software application is installed, the folder locations specified below need to be set.

Software	Folder Locations to be specified:
Vectra	The desired output location for scan data (Vectra data folder).
Vectra Review	the location of the Vectra data folder set in Vectra.

Vectra Review with AQUA Software

Recommended Order of Software Installation

For ease of installation, the software can be installed in the order described below. The software can be installed in any order, but the order shown below enables you to set the locations of files and folders in the easiest sequence. See Configuration Parameters below for paths required during setup.

1. Vectra
2. AQUAServe
3. AQUAduct
4. AQUAductRunner (AQUAduct **must** be installed before AQUAduct Runner)
5. Vectra Review

Configuration Parameters

The following information is required to set up each software application when the application is installed.

Software	Information required during installation:
Vectra	Output location for scan data.
AQUAServe	Drop folder location.
AQUAduct	AQUAServe drop folder location.
AQUAductRunner	AQUAductRunner Watch folder location.
Vectra Review	AQUAductRunner Watch folder location. The reviewer must know the Vectra data folder location.

Dependencies

Vectra file server

- must be visible to and writable by Vectra and Vectra Review
- must be visible to AQUAductRunner

AQUAduct and AQUAductRunner

- must be on the same computer

AQUAductRunner Watch folder

- must be visible to and writable by Vectra Review and AQUAductRunner
- Note that AQUAductRunner runs as a service. The AQUAductRunner Watch folder and AQUAServe drop folder must both be visible to and writable by the user account that the service runs under.

AQUAServe drop folder

- must be visible to and writable by AQUAduct

Data Processing Details

The steps below describe the details of processing Vectra data through Vectra Review and AQUA.

1. Slides are reviewed using Vectra Review on one of the Vectra Review computers.
2. When the review is accepted, Vectra Review creates a token file in the AQUAductRunner Watch folder. The AQUAductRunner service monitors the contents of the AQUAductRunner Watch folder.
3. When AQUAductRunner detects a token file in the AQUAductRunner Watch folder, AQUAductRunner uses AQUAduct software to create TMA files in the AQUAServe folder. The TMA files are required by AQUA software.
4. The TMA files are automatically processed by AQUAServe to produce AQUA scores.

5 Appendix B: IT Information

Note: The information in this section is intended for IT personnel or data administrators with adequate Vectra Review and AQUA training.

Vectra Review Preferences Editor

Use the Vectra Review Preferences Editor to change the Vectra Review configuration. This may be necessary if you need to change the AQUAductRunner Watch folder due to a network or system configuration change.

1. Double-click **VectraReviewPreferencesEditor.exe** in:
   a. Windows 7 32 bit: C:\Program Files\PerkinElmer\VectraReview\1.0.5.
   b. Windows 7 64 bit: C:\Program Files (x86)\PerkinElmer\VectraReview\1.0.5.
2. Type or browse to the location of the AQUAductRunner Watch folder and click **OK**.

Configurations with Multiple Vectra File Servers

If the site has multiple Vectra File Servers (on different machines), performance may be limited by network file access speeds. For best performance, each Vectra File Server should have its own installation of AQUAduct. Each installation of Vectra Review should use the AQUAduct Runner Watch folder that resides on the same Vectra File Server as the Vectra images to be reviewed.

If a Vectra File Server is not available or taken out of service, any Vectra Review using it must be reconfigured. Use the Preferences Editor to change the AQUAduct Runner Watch folder to use a different system.

If reviewing slides from a location other than where AQUAduct and AQUAductRunner are installed, the AQUAductRunner service must run under an account with read/write privileges to the slide location. The AQUAductRunner service runs under the local system account by default. To change the account under which the AQUAductRunner service runs:

1. Open the services panel through **Control Panel > Administrative Tools > Services**.
2. Right-click on the **AQUAductRunner** service and select **Properties**.
3. Click the **Log On** tab.
4. Select the **This Account** option and enter the username and password for an account with read/write access to the slide data location.
5. Click the **OK** button.

Simultaneous AQUAduct Processes

The AQUAduct processes for creating .tma files can be very memory intensive. AQUAductRunner limits the number of simultaneous processes to two. This prevents machines from thrashing. If significant amounts of RAM are available, you can achieve greater throughput by increasing the maximum number of processes. There should be at least 1GB of RAM per AQUAduct process, though performance will vary based on the number of fields in the .tma file.

To change the maximum number of processes, add a configuration entry for MaxProcesses to the AQUAductRunner.config file. The entry below increases the maximum concurrent AQUAduct processes to 3:

<Configuration-k>MaxProcesses</Configuration-k>

<Configuration-v>3</Configuration-v>

Open the AQUAductRunner.config file in any text editor (Notepad, Word, etc.). The AQUAductRunner.config file is located in C:\ProgramData\PerkinElmer\AQUAductRunner. (ProgramData is a hidden folder. Turn on View Hidden Files and Folders or type the path directly into Windows Explorer.)

The two lines of code above must be together and cannot be inserted between any existing <Configuration-k> and <Configuration-v> pairs.

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