VRS

Virtual**ReScan**®

4.5

User's Guide

KOFAX

Contents

How to Use This Guide

Introduction

The *VRS User's Guide,* which gives instructions for using VirtualReScan (VRS), is intended for all potential scan operators. Whether you are an expert at image processing or have no special knowledge of scanning, this guide provides the information you need to make the best use of VRS features and functionality.

This guide is written with the assumption that your VRS product has been installed and tested according to the instructions in the *VRS Installation Guide.*

Related Documentation

The *VRS User's Guide* is just one piece in the VRS documentation set. Your VRS product includes related documentation, as outlined in this section.

VRS Installation Guide

The *VRS Installation Guide* includes detailed instructions for installing VRS and activating the product license. The guide is intended for system administrators who are responsible for installing the application and configuring VRS. This guide also explains how to install Adrenaline SCSI scanner controllers.

The *VRS Installation Guide* is available in PDF format on your VRS installation disk. The guide is also available from the Kofax Web site at www.kofax.com when you select Support | Online Documentation.

VRS Online Help

VRS online Help provides online assistance with your application. You can access the online Help by pressing F1 from the VRS user interface or by selecting the Help menu from the VRS Interactive Viewer.

VRS Release Notes

Late-breaking product information is available from the release notes. You should read the release notes carefully, as they contain information that may not be included in the other VRS documentation.

The *VRS Release Notes* are available in PDF format from the Kofax Web site at www.kofax.com when you select Support| Online Documentation.

Training

Kofax offers both classroom and computer-based training that will help you make the most of your Kofax solution. Visit the Kofax Web site at www.kofax.com for complete details about the available training options and schedules.

Kofax Technical Support

For additional technical information about Kofax products, visit the Kofax Web site at www.kofax.com and select an appropriate option from the Support menu. The Kofax Support pages provide product-specific information, such as current revision levels, the latest drivers and software patches, online documentation and user manuals, updates to product release notes (if any), technical tips, and an extensive searchable knowledgebase. You can find VRS *FAQs* on the VRS Support pages.

The Kofax Web site also contains information that describes support options for Kofax products. Please review the site for details about the available support options.

If you need to contact Kofax Technical Support, please have the following information available, as applicable:

- VRS software version and build number
- Scanning application
- Operating system and service pack version
- Scanner make and model
- SCSI scanner controller
- Special/custom configuration or integration information

Overview

Introduction

VirtualReScan (VRS) is an image enhancement tool intended to provide the best possible image quality across the widest range of document types. VRS is an extremely effective and versatile imaging tool that is easy to use for beginners and experts alike. VRS works hand-in-hand with your scanning application. By giving you access to the VRS interactive controls, VRS offers the ability to drive your image processing with true power. VRS keeps it simple, though. Basically, VRS can be used in three ways:

1   **Default Settings**—You can use VRS to scan documents and accurately capture data effortlessly using the default settings. These default settings have been carefully chosen so that VRS will produce excellent image quality for a wide range of documents *without adjustments*.

2   **Automatic Image Enhancement**—VRS also monitors images, detecting poor image quality and performing automatic image enhancements that greatly reduce errors related to image quality or recognition.

3   **Manual Image Enhancement**—VRS provides interactive controls for cases in which you want the ability to modify an image manually. You determine the best settings *only once* for the documents you scan, and VRS does the rest.

Whether you choose to let VRS work completely on its own using the superior default settings, or make image adjustments yourself, you can be certain that every scanned image will meet the highest standards.

Note VRS is equipped with context-sensitive online Help. Press F1 to get on-screen assistance with crucial tasks, without leaving the application.
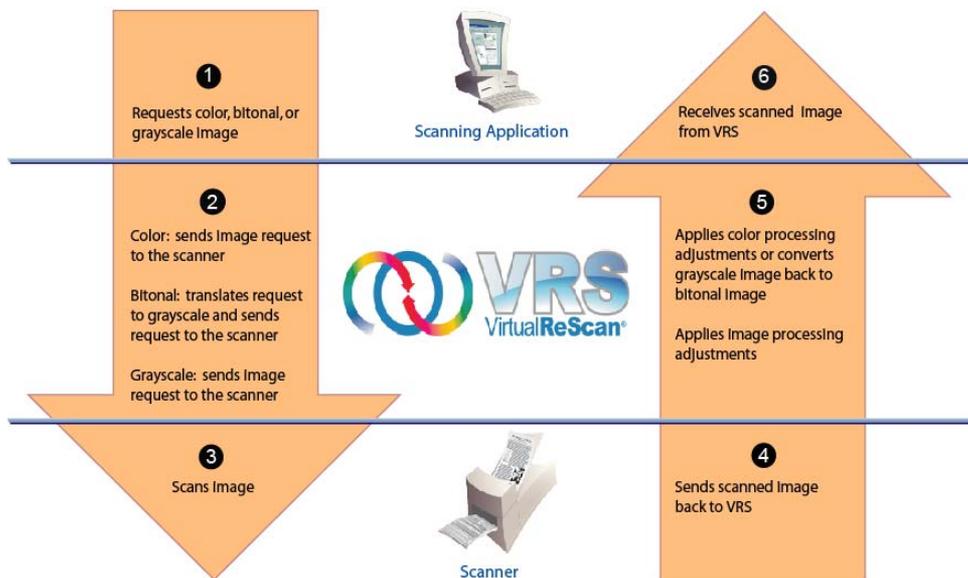
Using VRS to Scan and Process an Image

Figure 1-1. VRS Image Processing Workflow

VRS Image Processing Workflow

VRS works hand-in-hand with your scanning application and scanner. When you initiate a scan request from the scanning application, VRS evaluates and processes the request based on the image type (color, bitonal, or grayscale). Once the image is scanned, VRS applies adjustments as appropriate and then sends the processed image back to the scanning application (Figure 1-1).

Basic Features

With VRS, you can ensure that every scanned image meets your quality standards. While VRS is designed to make production scanning easier and more cost-effective, VRS also provides the same advantages for all types of scanning situations. Through instant detection of poor image quality, VRS performs automatic image enhancements. You can be certain that every scanned image meets your standards, as

VRS provides a set of interactive adjustment controls to eliminate guesswork with easy, real-time image correction. The VRS "Basic" feature set does the following:

- Scans batches that consist of multiple document sizes or varying degrees of quality. This means you won't have to pre-sort mixed batches. VRS will deskew images and crop them to the size of the original documents.
- Detects and alerts you to paper jams and equipment conflicts automatically. This saves time and increases post-processing accuracy.
- Performs automatic deskew without character degradation. Traditional deskew software produces jagged edges, but VRS character edges remain smooth and precise, even after the deskew process (Figure 1-2).
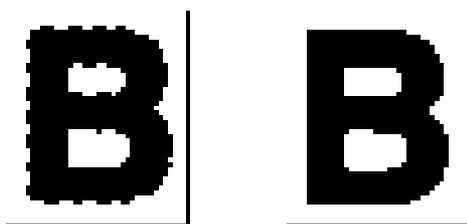
Figure 1-2. Traditional Deskew vs. VRS

Because the VRS Basic feature set has been optimized for bitonal output, it also does the following:

- Automatically assigns brightness settings that are optimal for your document type. For batch scans in which Optical Character Recognition (OCR) precision is crucial, low-contrast documents traditionally pose significant problems. With VRS, you are able to enhance faint content, which can result in improved OCR results, even at low resolutions (such as 200 DPI).
- Suppresses any background or noise to yield smaller image file sizes during image optimization, thus reducing storage requirements.

In addition, VRS offers a range of other features to help you ensure the highest level of quality for every scanned image:

- Despeckling
- Gamma correction
- Character dilation/erosion
- Long paper support
- Access to advanced properties
- White background cropping and deskew

VRS Professional Features

In addition to the basic feature set, VRS supports a set of "Professional" features, which include the following:

- Automatic color detection
- Background smoothing
- Auto orientation
- Blank page detection and deletion
- Automatic checking for product updates
- Advanced Clarity setting
- QC Later mode for Kofax Capture (formerly Ascent Capture) users

Unlimited access to VRS Professional features is available to all users with the following VRS license categories: Desktop, Workgroup, and Production. Limited access to VRS Professional features is available to users who have the VRS Basic license. With a VRS Basic license, you can preview the VRS Professional features by using them in demonstration mode. For details, refer to *Enabling the Professional Features Demo* on page 78. For details about individual VRS Professional features, refer to *Operating VRS* on page 15.

Note If you enable all of the VRS Professional features at the same time, there is some potential for performance degradation.

Certified Scanning Applications

As part of the certification process, Kofax tests VRS compatibility with a wide range of scanning applications. While the list of certified scanning applications is updated on a regular basis, it is important to know that VRS is designed to work with any application based on the Kofax ImageControls toolkit, an ISIS programming interface, or a TWAIN programming interface.

Certified vs. Non-Certified Scanners

When a scanner is certified for VRS, it goes through a rigorous testing process during which the best default settings are identified and selected. For this reason, we recommend that you use VRS only with certified scanners. Also, Kofax Technical Support is available only for VRS-certified scanners. You can use the links on the VRS product pages on the Kofax Web site at www.kofax.com to view the list of VRS-

certified scanners. In addition to listing the scanner name and manufacturer, the VRS product pages include the following information:

- Driver used for VRS (TWAIN, ISIS, or Kofax SCSI)
- Black or white background support
- Additional memory required for optimal performance (if applicable)
- Interface certified by VRS (SCSI, USB, FireWire, or RJ45)

VRS is capable of working with some non-certified or "compatible" scanners, if they have been configured with the Scanner Configuration Utility. It is important to be aware that you may experience less than optimal image quality when using a non-certified scanner with VRS. Not every scanner can be used with VRS. To be compatible with VRS, a non-certified scanner must meet the following requirements:

- Ability to output a 256-level grayscale image as a single image
- TWAIN driver or ISIS driver support

> **Note** While VRS works best with an ISIS driver, it also supports some scanners with TWAIN drivers.

For more information about using non-certified scanners with VRS, refer to the *VRS Installation Guide.*

Operating VRS

Introduction

This chapter explains how to operate VRS using the default settings, how to set up custom profiles, and how to use the VRS Adjustment Controls to configure and use the manual image enhancement features. This chapter also gives you information about advanced features and other options that are available from the VRS user interface.

Selecting a VRS Scan Source

VRS will be active once you start your scanning application and select a VRS scan source, as described in the following procedure.

SVRS and HVRS Scan Sources

Each VRS scan source includes either "SVRS" or "HVRS" in its name. Sources with "SVRS" refer to Software VRS, while sources with "HVRS" refer to Hardware VRS. HVRS sources are required for high-speed, production class scanners in which a special board is installed to support VRS functionality. Based on the scanner that you specify during the VRS installation process, the appropriate source (SVRS or HVRS) is made available for selection from your scanning application. Although SVRS sources are shown in the procedure below, your list may consist of HVRS sources if a production class scanner has been specified during the VRS installation process.

▶ **To select a VRS scan source**

   1   Turn on your scanner and your computer.

   2   Start your scanning application.

   3   From the scanning application, select a VRS scan source. The dialog box used to select the VRS scan source will vary, as will the scan source name,

according to your scanning application and scanner specified during the VRS installation process:

ImageControls-based applications

- *<Your Scanner Model>* with SVRS
- *<Your Scanner Model>* with SVRS with AIPE
- *<Your Scanner Model>* without SVRS
- *<Your Scanner Model>* without SVRS with AIPE

ISIS-based applications

- Kofax VRS Scanner

TWAIN-based applications

- Kofax Software VRS - TWAIN

Refer to Figure 2-1 through Figure 2-3 for examples.
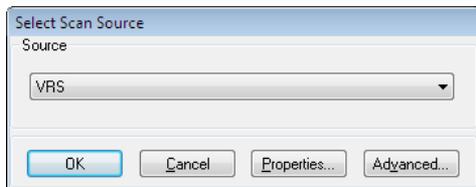
Figure 2-1. Select Scan Source Dialog Box (ImageControls-based application)
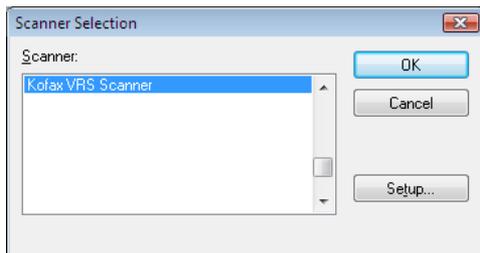
Figure 2-2. Scanner Selection Dialog Box (ISIS-based application)
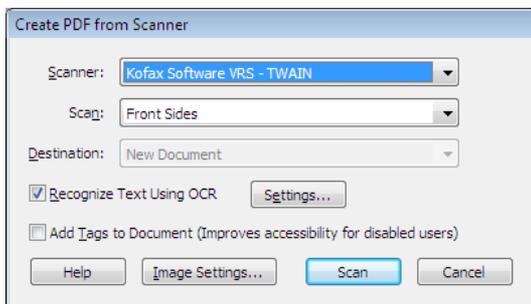
Figure 2-3. Select Scanner Dialog Box (TWAIN-based application)

4   Click the OK or Scan button, as applicable to your scanning application.

5   For ImageControls-based applications, the VRS icon (Figure 2-4) will display in the Windows taskbar as soon as you select the scan source. For ISIS and TWAIN applications, the VRS icon will display when the scanner interface dialog box is displayed, or when you start scanning. Refer to *Kofax VRS Scanning Interfaces* on page 18 for more information.

Figure 2-4. VRS Taskbar Icon

The scanner associated with the Kofax VRS TWAIN or Kofax VRS ISIS source is the default scanner. The default VRS scanner is set when you do either of the following:

- Select a scanner during the VRS installation process
- Select a default scanner from the Scanner Configuration Utility

Note For more information about the VRS installation process, refer to the *VRS Installation Guide*. For information about the Scanner Configuration Utility, refer to *Scanner Configuration Utility* on page 85 of this guide.

6   Follow your scanning application instructions and scan as usual.

Kofax VRS Scanning Interfaces

The scanning interface consists of basic scanner property settings, along with an option for accessing VRS. The scanning interface serves as a connection between VRS and your scanning application. Depending on the type of scanning application (ImageControls-based, ISIS-based, TWAIN-based), the options that appear on the VRS scanning interface will vary. For example, the ImageControls scanning interface does not include an option that you can select to start scanning, but the ISIS and TWAIN scanning interfaces both include a Scan option.

Most scanning applications support one scanning interface type, but some do support more than one. For applications that support multiple scanning interfaces, the preferred interface is the one that provides direct access to VRS. For best results, we recommend that the Kofax ImageControls interface be your first choice, followed by the ISIS interface and then the TWAIN interface.

Kofax VRS ImageControls Interface

The Kofax VRS ImageControls interface serves as a connection between VRS and your ImageControls scanning application. Once you select the scan source from the scanning application, you can access an ImageControls scanning interface. Then the scanner properties will be available from a custom dialog box created by the application or in a standard ImageControls dialog box. In Figure 2-5, you can see the Scanner Properties dialog box that is available in VCDemo, the ImageControls-based demonstration scanning application that is included with every VRS installation.

Note For more information about VCDemo, refer to *Using VCDemo* in your *VRS Installation Guide*.
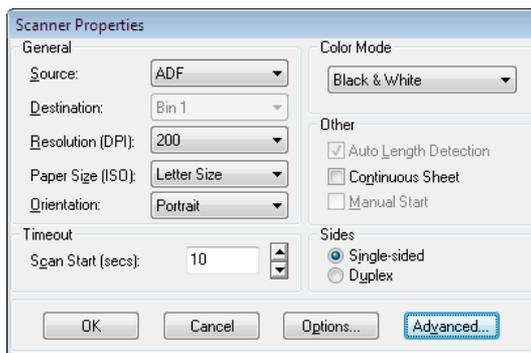
Figure 2-5. Kofax VRS ImageControls Interface

You can use the Kofax VRS ImageControls interface to control scanner functions. Under General, you can select from the following options:

- Source: Lists the available input paper source as Flatbed, ADF, Manual, or Panel. Depending upon the capabilities of the selected scanner, some sources may not be available.
- Destination: Lists the output tray (usually Bin 1 or Bin 2) for the pages to be scanned. Depending upon the capabilities of the selected scanner, some trays may not be available.
- Resolution (DPI): Select an option for scan resolution or DPI.
- Paper Size: Lists the paper size (Letter, Legal, A5, etc.) supported by the selected scanner.
- Orientation: Lists the paper orientation (portrait or landscape) for the documents that you plan to scan.

Other options on the ImageControls scanning interface include the following:

- Timeout: Select the number of seconds allowed for you to load paper into the scanner after starting a scan operation. Once the timeout interval is exceeded, the operation will time out and report an out of paper error.
- Color Mode: Select the color mode (color, black and white, grayscale) for the scan operation. The color mode determines the number of colors or shades of gray into which the scanned page is translated. The availability of the color modes is dependent upon the capability of the selected scanner. The color mode selection also affects the availability of VRS features.
- Other: Select options associated with automatic length detection, continuous sheet operation, and manual start. The availability of these options is dependent upon the capability of the selected scanner. For more information, press F1 from the Scanner Properties dialog box.
- Sides: Select either single-sided or duplex, according the number of sides that will be scanned at one time. Some scanners do not support duplex scanning.

Click the Options button to access a Source Properties dialog box, which is used to specify preferences for your image source. For more information, press F1 from the Scanner Properties dialog box.

Click the Advanced button to open the VRS Interactive Viewer.

With ImageControls scanning applications, the option that you select to start scanning is usually available as a menu command that is separate from the scanner property settings.

Note For more information, refer to your ImageControls documentation.

▶ To scan using the Kofax VRS ImageControls interface

1 Open your scanning application.

2 Select a VRS scan source and click OK. The scan source is typically named as "*<Your Scanner Model>* with SVRS," where "*<Your Scanner Model>*" corresponds to the make and model of your scanner.
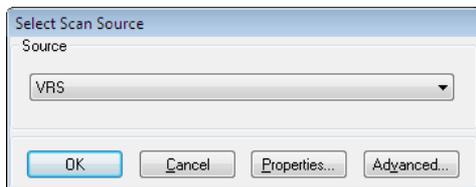
Figure 2-6. Kofax VRS ImageControls Interface – Select Source

3 Select Source | Properties to open the Scanner Properties dialog box associated with the selected scan source.
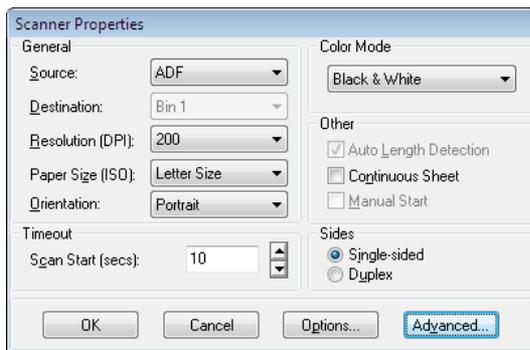
Figure 2-7. Scanner Properties Dialog Box

4 From the Scanner Properties dialog box, select the desired options and click OK. For more information about individual settings, press F1 from the dialog box.

5 Start the scanning process by selecting either Source | Process Image or Source | Process Batch, as appropriate.

Kofax VRS ISIS Interface

The Kofax VRS ISIS interface (Figure 2-8) serves as a connection between VRS and your ISIS scanning application. In most cases, the Kofax VRS ISIS interface is displayed automatically when you select the "Kofax VRS Scanner" source from your ISIS scanning application. The interface includes settings for configuring preferences related to basic scan settings, VRS profiles, bar codes, imprinters, patch codes, and more.

You can save the settings configured from the Kofax VRS ISIS interface as a "preset." Each preset is associated with a VRS profile, which consists of the image processing settings that you configure from the VirtualReScan Profile Editor. When you create a preset, it is automatically associated with the VRS "Default settings" profile unless you specify a different VRS profile. You can access the VirtualReScan Profile Editor directly from the VRS tab in the Kofax VRS ISIS interface.
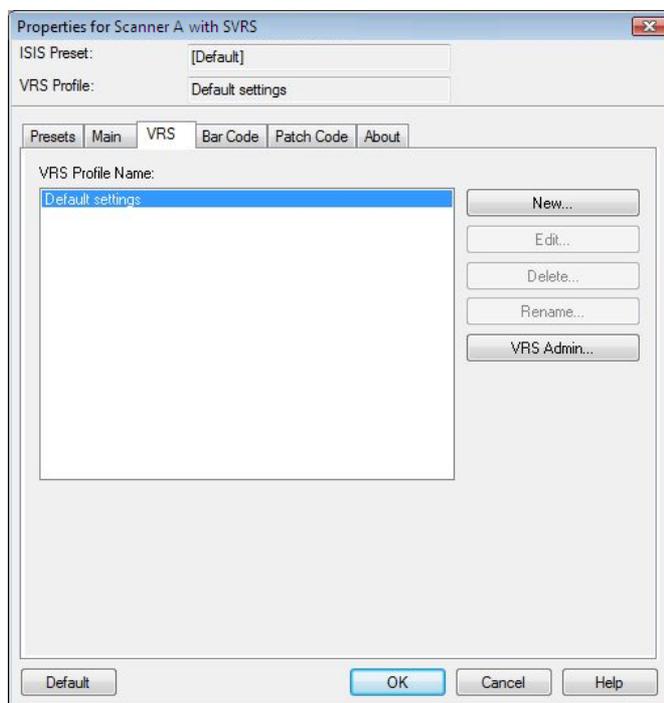
Figure 2-8. Kofax VRS ISIS Interface

Some ISIS applications hide the Kofax VRS ISIS interface and use their own interfaces instead. You can use the Kofax VRS ISIS interface to control scanner features made available via the ISIS driver. The interface consists of settings associated with scanner presets (profiles), as well as general settings related to the scanner.

Use the Scanner Presets group to create and manage scanner preset settings. You type in the name of a new preset which can then be saved, restored, or removed using the New, Save, Restore, or Delete buttons.

Note The scanner presets that you create from the Kofax VRS ISIS interface differ from the profiles created in VRS. For details, refer to *Working with Profiles* on page 39.

Under General, you can select the following options:

- Paper Source: Select from the available input paper sources: Flatbed or ADF.
- Dots Per Inch: Select an option for scan resolution or DPI.
- Mode: Select from the color modes supported by the scanner, which may include black and white, grayscale, or color. The mode selection also affects the availability of VRS features.
- Page Size: Select a paper size, such as Letter, Legal, A5, etc.
- Orientation: Select the paper orientation (portrait or landscape).
- Simplex/Duplex: Select single-sided or double-sided scanning.

You can access the VRS Interactive Viewer by clicking the Advanced button, and you can access the VirtualReScan Administration Utility by clicking the VRS Admin button.

▶ **To scan using the Kofax VRS ISIS interface**

1   Open your scanning application.

2   Select the Kofax VRS Scanner source and click OK.
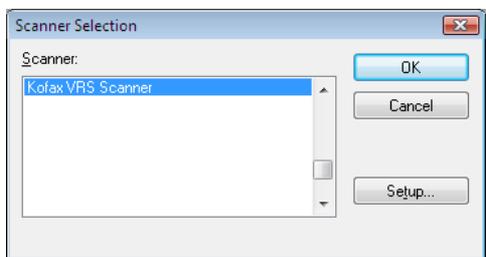
Figure 2-9. Kofax VRS ISIS Interface – Scanner Selection Dialog Box

3   The Kofax VRS ISIS interface will launch (Figure 2-8). Under General, select settings such as the paper source, DPI, mode, and paper size.

4   If desired, click New to create a profile to save the settings for future use.

    a   At the New Profile dialog box, type a name for the profile in the text box.

    b   Type the file name for the profile into the text box.
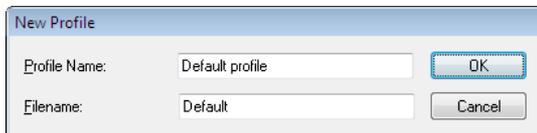
Figure 2-10. Kofax VRS ISIS Interface - New Profile Dialog Box

5 Click OK to close the New Profile dialog box, or click Cancel to exit without making any changes. In the future, you can change a profile by selecting it, updating the settings under General, and then clicking Save. You may also load a profile by selecting it and clicking Restore from the Kofax VRS ISIS interface. Likewise, you remove a profile by selecting it and clicking Delete.

6 Start the scanning process.

Kofax VRS TWAIN Interface

The Kofax VRS TWAIN interface serves as a connection between VRS and your TWAIN application. In most cases, the Kofax VRS TWAIN interface will automatically display when you select the "Kofax Software VRS - TWAIN" scanner source from your TWAIN scanning application.
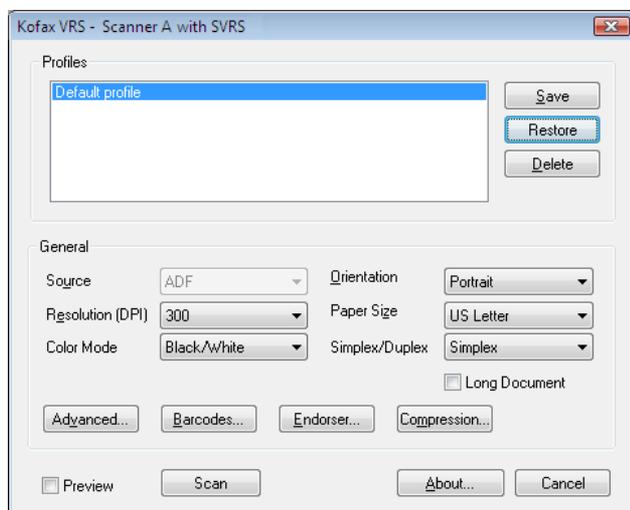
Figure 2-11. Kofax VRS TWAIN Interface

With some TWAIN scanning applications, the Kofax VRS TWAIN interface includes a More button that typically gives you access to the VRS Interactive Viewer. Some TWAIN applications may hide the Kofax VRS TWAIN interface and use their own interface instead.

Use the Kofax VRS TWAIN interface to control scanner features made available via the TWAIN scanner driver. The Kofax VRS TWAIN interface consists of two groups: the Profiles group and the General group.

Use the Profiles group to create and manage configuration settings (scanner presets). You can use the list box to type in the name of a new profile which can then be saved, restored, or removed using the Save, Restore, or Delete buttons. You can establish multiple profiles to accommodate different scanning situations. Although you can create multiple profiles, only seven profiles at a time will be visible in the Profiles window on the Kofax VRS TWAIN interface.

Note The profiles created from the Kofax VRS TWAIN interface differ from the profiles created in VRS. For details, refer to *Working with Profiles* on page 39.

Under General, you can select the following settings:

- Source (Paper Source): Select either Flatbed or ADF.
- Resolution (DPI): Select an option for scan resolution or DPI.
- Color Mode: Select from the color modes supported by the scanner, which may include Black/White, Grayscale, or RGB (color). The color mode selection affects the availability of VRS features.
- Paper Size: Select a paper size, such as Letter, A5, etc.
- Orientation: Select the paper orientation, such as portrait or landscape.
- Simplex/Duplex: Select single-sided or double-sided scanning.
- Long Document: Select this check box if you are scanning pages that exceed the standard length.
- Advanced: Opens the VRS Interactive Viewer.
- Barcodes: Opens the Barcode Properties dialog box.
- Endorser: Opens the Endorser & Annotation Properties dialog box.
- Compression: Opens the Compression dialog box.

You can select the Preview check box in the lower left corner of the interface to view the image as it is being scanned and make changes to it in real time using the VRS Adjustment Controls. When Preview is selected, it overrides the "First Page" operating mode in VRS.

You can select the About button to view installation location and version information.

▶ **To scan using the Kofax VRS TWAIN interface**

1   Open your scanning application.

2   Select the "Kofax Software VRS - TWAIN" scanning source and click OK.
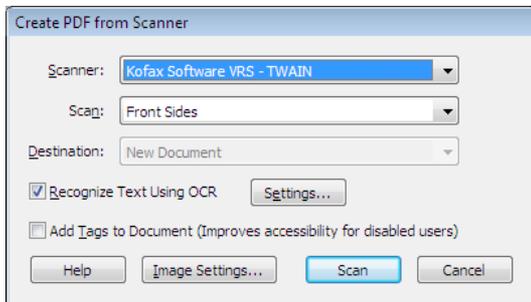
Figure 2-12. Kofax VRS TWAIN Interface – Select Source

3   The Kofax VRS TWAIN interface will launch. From the General group, make your selections such as the Source, DPI, Color Mode, Paper Size, etc.

4   If desired, click Save to create a profile to save the updated settings.

   a   At the Save Profile dialog box, type a name for the profile.

   b   Click OK. In the future, you can load a profile by selecting it and clicking Restore from the Kofax VRS TWAIN interface. Similarly, you can remove a profile by selecting it and clicking Delete.

5   If desired, click any of the following buttons to update additional settings:

- Advanced: Opens the VRS Interactive Viewer.
- Barcodes: Opens the Barcode Properties dialog box.
- Endorser: Opens the Endorser & Annotation Properties dialog box.
- Compression: Opens the Compression dialog box.

6   Click Scan to start the scanning process.

Configuring VRS Before You Scan

The VRS default settings produce superior results for most document types, and in most cases, you can use VRS successfully without changing anything. VRS does give you the flexibility to configure operating preferences and adjust the default settings if necessary. This section explains some configuration options that are available to you:

- Using the VirtualReScan Administration Utility to customize the way that VRS responds to exception images. For details, refer to the next section.
- Selecting an operating mode to control how often the VRS Interactive Viewer will display during a scanning session. Refer to *Setting the VRS Operating Mode* on page 37.
- Selecting a profile that will produce the best possible image quality for the documents that you scan. Refer to *Working with Profiles* on page 39.
- Previewing a sample image to confirm that the selected profile is the best choice for your documents. Refer to *Previewing Images* on page 45.

Using the VirtualReScan Administration Utility

While you may want to scan until all pages have been processed successfully, there are cases in which scanning may stop before a batch is completed. You can use the VirtualReScan Administration Utility settings to control scanning behavior under specific image and scanner conditions. Most of the settings are used to specify how VRS responds to exception images and reports problems to your scanning application. The choices vary, according to different warning or error types.

The VirtualReScan Administration Utility dialog box consists of three tabs:

- **Warnings tab**: settings related to image quality conditions
- **Errors tab:** settings that affect the VRS response to errors that occur in connection with equipment conflicts and paper transport issues
- **Accelerated Scanning tab:** settings that you can use to maximize the speed of your scanner
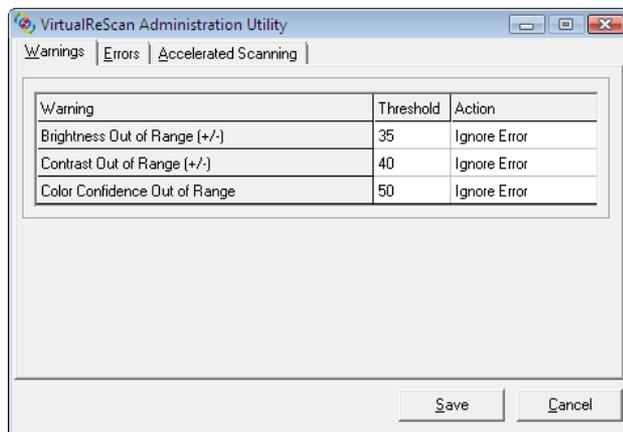
Figure 2-13. VirtualReScan Administration Utility Dialog Box

The default settings for VRS provide optimal scanning and accurate data capture for a wide range of documents. For most situations, it should not be necessary to adjust the default settings, which are listed in Table 2-1.

Table 2-1. VirtualReScan Administration Utility Dialog Box Default Settings

Tab	Warning/Error Type	Threshold	Action	Setting
Warnings	Brightness Out of Range	30	Interactive	NA
			Ignore Error[1]	
Warnings	Contrast Out of Range	40	Interactive	NA
Warnings	Color Confidence Out of Range	50	Interactive	NA
Errors	Auto Crop Failure - Page Boundary Not Detected	NA	Ignore Error	NA
Errors	Auto Deskew Failure	NA	Ignore Error	NA
Errors	Paper Jam	NA	Auto Resolve	NA
Errors	Out of Paper	NA	Auto Resolve	NA
Errors	Cover Open	NA	Auto Resolve	NA

Table 2-1.   VirtualReScan Administration Utility Dialog Box Default Settings (continued)

Tab	Warning/Error Type	Threshold	Action	Setting
Errors	Multifeed[1]	NA	Auto Resolve	NA
Errors	Scanner Offline[1]	NA	Auto Resolve	NA
Errors	Feeder Timeout[1]	NA	Auto Resolve	NA
Errors	Scanner Stop Key[1]	NA	Auto Resolve	NA
Errors	Scanner Page Sensor Error[1]	NA	Auto Resolve	NA
Accelerated Scanning	NA	NA	NA	Image quality: Best Acceleration: None

1   Böwe Bell + Howell scanners only

If desired, you can modify the VirtualReScan Administration Utility settings according to your requirements for image quality and exception handling. To modify the settings, open the VirtualReScan Administration Utility dialog box by selecting the Admin Utility command from the VRS taskbar menu.

From the Warnings and Errors tabs, you define settings that tell VRS exactly how to respond when it detects an exception image, an equipment conflict, or a paper transport issue. You can use the default settings on the Warnings and Errors tabs, or customize how VRS handles each exception type. Once you are satisfied with the settings, click Save. Changes that you have made on any of the tabs are saved and they take effect at the start of the next scan operation. When you click Cancel to dismiss the dialog box, changes made on any of the tabs are automatically discarded.

For detailed information on how to modify settings on the VirtualReScan Administration Utility, refer to the next section, *Warnings Tab,* the *Errors Tab* section on page 31, or the *Accelerated Scanning Tab* section on page 33.

Warnings Tab

The Warnings tab lists exception conditions associated with image quality. For each warning condition, you set a threshold value. This threshold value defines the acceptable range that VRS tolerates for brightness, contrast, and color confidence. VRS intercepts any image with values that fall outside the acceptable range, and then handles the image according to the response that you select from the Action column.
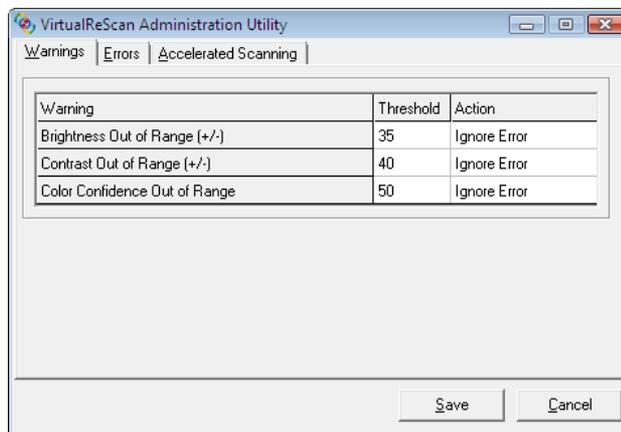
Figure 2-14. Warnings Tab

Table 2-2 lists the types of warnings and their causes.

Table 2-2. Warning Types

Warning	Cause
Brightness Out of Range	Brightness value for the image falls outside the acceptable range.
Contrast Out of Range	Contrast value for the image falls outside the acceptable range.
Color Confidence Out of Range	Color confidence value for the image is lower than the acceptable range.

Table 2-3 lists the actions that you can select as responses to the warnings on the Warnings tab.

Table 2-3. Action Types for Warnings

Action Type	Description
Ignore Error	VRS does not notify you of the warning or take any action to correct it. VRS accepts the image "as is," passes it to the scanning application, and then resumes the scanning session.
Return Error	VRS notifies you of the warning, but does not send the image to the scanning application. The scanning session is then terminated.
Interactive	The VRS Interactive Viewer opens and displays the image, so that you can apply adjustments to correct the condition that caused the warning.

Brightness Out of Range

Use the Brightness Out of Range threshold to define the valid range for brightness values. When a document is scanned, VRS evaluates the resulting image to determine its brightness. Then, VRS compares the actual brightness value to the user-defined acceptable range. The acceptable range is determined by starting with 50 and adding and subtracting the Brightness Out of Range threshold value listed on the Warnings tab. Based on this real-time evaluation, VRS either accepts the image and allows it to be passed on to the scanning application, or intercepts it and responds according to the Action setting in the Warnings tab. The detected value for brightness is reported on the status bar in the VRS Interactive Viewer.

For example, if the Brightness Out of Range threshold is 10 on the Warnings tab, VRS accepts any image with a detected brightness value ranging from 40 to 60. The range starts at 40, which is 10 less than 50, and it ends at 60, which is 10 more than 50. Therefore, an image with a brightness value of 70 would fall outside the valid range. VRS would respond by taking the action listed on the Warnings tab for Brightness Out of Range. Refer to Figure 2-14 on page 29.

Contrast Out of Range

Use the threshold to define the valid range for contrast values. When a document is scanned, VRS evaluates the resulting image to determine its contrast. Then, VRS compares it to the user-defined acceptable range. The acceptable range is determined by starting with 50 and adding and subtracting the Contrast Out of Range threshold value listed on the Warnings tab. Based on this real-time evaluation, VRS either accepts the image and allows it to be passed on to the scanning application, or intercepts it and responds according to the Contrast Out of Range action setting in the Warnings tab. The detected contrast value is listed on the status bar in the VRS Interactive Viewer.

For example, if the Contrast Out of Range threshold is 15 on the Warnings tab, VRS accepts any image with a contrast value ranging from 35 to 65. The range starts at 35, which is 15 less than 50, and it ends at 65, which is 15 more than 50. Therefore, an image with a contrast value of 25 would fall outside the valid range and generate a warning. VRS would respond by taking the action listed on the Warnings tab for Contrast Out of Range. Refer to Figure 2-14 on page 29.

Color Confidence Out of Range

Use this threshold to define the valid range for color confidence values. When a document is scanned, VRS evaluates the image to determine if it is color or bitonal. VRS also determines how confident it is that the correct assessment was made. The confidence level is expressed as a percentage that appears in the status bar of the VRS Interactive Viewer.

VRS compares the percentage to the user-defined acceptable value, which is the Color Confidence Out of Range threshold setting on the Warnings tab. Based on this real-time evaluation, VRS either accepts the image and allows it to be passed on to the scanning application, or intercepts it and responds according to the Color Confidence Out of Range action in the Warnings tab.

For example, if the threshold is 50 on the Warnings tab, VRS accepts any image with a color confidence value of 50 or higher. Therefore, an image with a color confidence value lower than 50 would fall below the valid range and generate a warning. VRS would respond by taking the action listed on the Warnings tab for Color Confidence Out of Range. Refer to Figure 2-14 on page 29.

Errors Tab

The Errors tab lists exception conditions such as errors caused by equipment conflicts or paper transport issues, along with the VRS response to each condition.

Note The list of error types on the Errors tab may vary, according to the scanner that you are using with VRS.

In the Action column, select the desired VRS response for each error type. To change the setting, click in the Action box and select the new setting from the list.
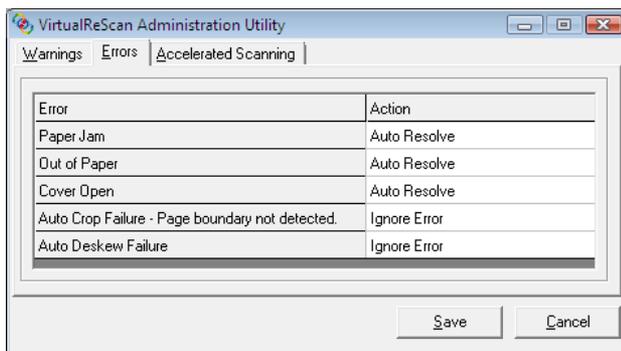
Figure 2-15. VirtualReScan Administration Utility - Errors Tab

Table 2-4. Error Types

Error	Description
Paper Jam	Paper jam occurs in the scanner paper path.
Multifeed[1]	Multiple pages have been pulled into the transport.

Table 2-4. Error Types (continued)

Error	Description
Out of Paper	No paper is available to scan.
Cover Open	Scanner cover is not closed securely.
Scanner Offline[1]	The scanner is not ready to scan.
Feeder Timeout[1]	The document feeder tries, but is unable to move the page for a period of time that exceeds the ADF timeout setting.
Scanner Stop Key[1]	The user presses the "OI STOP" key on the scanner, causing an immediate transport stop, and pages are left somewhere in the transport.
Scanner Page Sensor[1]	The sensor detects an unexpected page sensor transition during scanning, such as a hole in the document or a ragged page edge. The transport continues to run until it clears and all pages are in the exit tray.
Auto Crop Failure - Page Boundary Not Detected	Due to excessive skew or other condition, VRS is unable to detect the edges of the scanned document.
Auto Deskew Failure	The image does not contain sufficient horizontal or vertical lines to perform a correct deskew. Use the Skew panel to make a manual correction. Refer to *Using the Skew Panel* on page 66.

1   Scanner dependent errors

Table 2-5 lists the action types that are available from the Errors tab.

Table 2-5. Action Types for Errors

Action Type	Description
Ignore Error	VRS does not notify you of the error or take any action to correct it. VRS accepts the image "as is," passes it to the scanning application, and resumes the scanning session.
Return Error	VRS notifies you of the error, but does not send the image to the scanning application. The scan session is then terminated.
Auto Resolve	VRS opens the Auto Resolve Manager in automatic mode. As a result, the scanner automatically attempts to retry the scan until the user resolves an equipment or paper transport impediment, such as a paper jam or out of paper condition. Refer to *Using the Auto Resolve Manager* on page 81.

Table 2-5.   Action Types for Errors

Action Type	Description
Interactive	The VRS Interactive Viewer opens and displays the image in the VRS Interactive Viewer, so that you can apply new settings to the current image.

Accelerated Scanning Tab

When used with a scanning application that requests a bitonal image, VRS requests a grayscale image from the scanner. VRS analyzes the grayscale image and produces a clean, clear, bitonal image that is passed to the application. This means that, when used with VRS, the scanner never actually produces a bitonal image. Historically, scanners run at their optimum speed when scanning in bitonal mode and more slowly when scanning grayscale or color images. This has changed in the last few years, because nearly all scanners now scan in grayscale mode as fast as they scan in bitonal mode. In fact, some scanners can even scan in color mode as fast as they do in grayscale or bitonal modes.

When used with some scanners (old or new) that run more slowly while scanning in grayscale mode, VRS may appear to be responsible for the slowdown. The perception is that the application is requesting a bitonal image and VRS is causing the scanner to run more slowly than usual. In reality, the scanner is running at its rated speed **in grayscale mode, rather than bitonal mode**. Most users accept this slight slowdown because the image quality produced by VRS far outweighs the reduced throughput.

If you prefer your scanner to run at, or near, rated bitonal speed, you can use the setting on the Accelerated Scanning tab to accelerate the scanner and experience only a slight reduction in image quality.

Note With some scanners, the Accelerated Scanning setting has no effect.
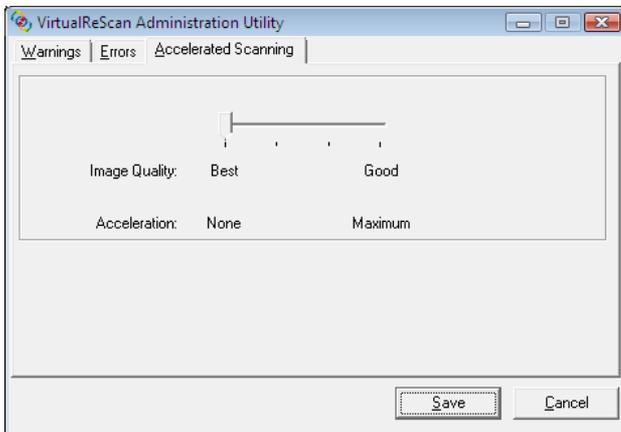
Figure 2-16. Accelerated Scanning Tab

You can use the slider to select a scanning acceleration level from None to Maximum, while reducing the image quality from Best to Good. VRS performs the acceleration by scanning a grayscale image at a lower resolution then what was requested by the application. VRS performs its normal analysis on this image and produces a clean, clear, bitonal image. VRS then scales this image up to the resolution requested by the application, and this process affects the image quality. As you move the slider from None (no acceleration) to Maximum, the difference between the requested resolution and the actual scanned resolution is increased. At Maximum, the difference is the greatest and as a result, the reduction in image quality is also the greatest.

For example, suppose you select 300 DPI in your scanning application and enable the first level of Accelerated Scanning in VRS. The image scans at 200 DPI to accelerate scanning speed and VRS translates it to 300 DPI to achieve the desired resolution. Table 2-6 lists the DPI settings that VRS uses for a typical scanner. Use this table as an example of how VRS treats DPI settings defined in a scanning application.

Note When you select the first level of accelerated scanning, the image quality is virtually equivalent to non-accelerated scanning. However, higher levels of acceleration affect the image quality. Not all scanners increase in speed when you select accelerated scanning. If your scanner does not offer lower resolutions than the resolution selected in your scanning application, accelerated scanning will have no effect.

Table 2-6. Accelerated Scanning DPI Settings for the Typical Scanner

DPI Setting as Defined in Scanning Application	Actual Scan DPI Setting Level 1 Acceleration	Actual Scan DPI Setting Level 2 Acceleration	Actual Scan DPI Setting Level 3 Acceleration	Image Output DPI Setting
300	240	150	100	300
240	200	150	100	240
200	150	100	75	200
150	150	75	75	150
100	75	75	75	100
75	75	75	75	75

Updating the VirtualReScan Administration Utility Dialog Box

Use these instructions to update the VirtualReScan Administration Utility settings.

▶ **To update the VirtualReScan Administration Utility settings**

    1 Right-click on the VRS taskbar icon to open the VRS menu.

2 From the VRS taskbar menu, select Admin Utility.
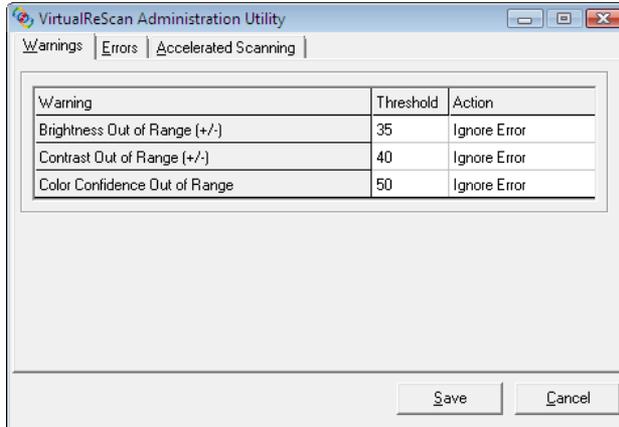
Figure 2-17. VirtualReScan Administration Utility

3 When the VirtualReScan Administration Utility displays, select and adjust the settings for the following tabs:

- Warnings tab - Threshold. Type directly into the Threshold text box, or click the arrows to select a new threshold setting. For more information, refer to *Warnings Tab* on page 28.
- Warnings tab/Errors tab - Action. Define a VRS response to each exception type by clicking in the Action option and selecting from the list. For more information, refer to *Warnings Tab* on page 28 and *Errors Tab* on page 31.
- Accelerated Scanning tab. Click and drag the slider to make your selection. For details, refer to *Accelerated Scanning Tab* on page 33.

4 Once you are satisfied with the settings, click Save. Changes that you have made on any of the tabs are saved and they take effect at the start of the next scanning operation.

Setting the VRS Operating Mode

You can configure settings that control how often the VRS Interactive Viewer will be displayed during a scanning session. By selecting the QC Modes command from the VRS menu, you can set the VRS Interactive Viewer to open under different conditions.

The default QC mode is "On Errors." The default value for the Hardware Warnings setting is *on* (checked). Once selected, a QC mode setting and the Hardware Warnings setting stay in effect until they are changed, even across scanning sessions. The operating mode selections are unique for each VRS user on your computer.

On Errors

The VRS Interactive Viewer will open only in connection with exception conditions for which the action selection in the VirtualReScan Administration Utility is "Interactive" (refer to *Using the VirtualReScan Administration Utility* on page 26). After you install VRS, "On Errors" is the default operating mode selection.

Exception images typically account for five percent or fewer of the documents that are scanned with VRS.

First Page

The VRS Interactive Viewer will always open when you scan the first page of a batch. You can use this mode to verify the effect of the active VRS profile, or to make adjustments before proceeding with subsequent documents in a batch. In this mode, you use the first page in the batch to verify the VRS Adjustment Controls settings.

Every Page

The VRS Interactive Viewer will open after each document scans, or with duplex scanning, after each document side scans. This mode can be used for small batches of extremely complex documents that require individual adjustments. The need to select Every Page operating mode is unusual because VRS has the ability to process a wide range of document types without requiring any adjustments.

QC Later (available to Kofax Capture users)

The VRS Interactive Viewer will remain out of view until it is invoked from the Quality Control or Scan modules in the Kofax Capture (formerly Ascent Capture) application. VRS QC Later gives Kofax Capture users the option to postpone VRS image quality adjustments associated with exception processing. VRS QC Later is

available to Kofax Capture users, provided that the proper VRS Professional license is in place. For more information, refer to the Kofax Capture documentation.

Disabled

The VRS Interactive Viewer will not open, even if exception conditions occur.

Hardware Warnings

Use the Hardware Warnings option to specify how VRS should respond to hardware conditions such as Paper Jam, Out of Paper, and Cover Open. Selecting the Hardware Warnings option means that you are choosing to handle these errors exactly as defined by the "Action" settings in the VirtualReScan Administration Utility. When this option is not selected, it is the equivalent of choosing "Return Error" as the action for all hardware error conditions in the VirtualReScan Administration Utility. Refer to Table 2-5 on page 32.

▶ **To change the operating mode**

1 Right-click on the VRS taskbar icon.

2 From the VRS taskbar menu, select QC Modes.

3 From the QC Modes submenu, select the desired operating mode. A check mark will appear next to your selection.

Figure 2-18. QC Modes

4 Proceed with your scanning session.

Working with Profiles

With VRS, you can scan documents and accurately capture data in the shortest time possible using the default settings, which have been carefully chosen to allow VRS to excel at a wide range of documents *without adjustments*. However, some document types may pose a challenge and they may require custom adjustments. If you expect to work with a high volume of problematic or challenging documents, the best solution may be to create a profile that contains custom settings.

In VRS, a "profile" consists of a saved combination of settings from the VRS Adjustment Controls (refer to *Using the VRS Adjustment Controls* on page 56). A VRS profile is the equivalent of a memorized strategy for image correction and enhancement. VRS includes one default profile that can be used to process a range of document types. VRS uses the default profile unless you define and select another profile. The profile selection is unique for each VRS user on your computer.
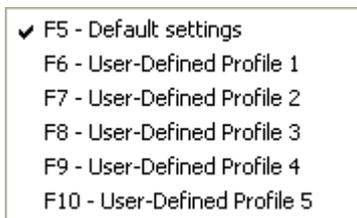
Figure 2-19. VRS Profiles

You can use the options on the Profile menu in the VRS Interactive Viewer to create, update, load, and remove profiles. You can establish multiple profiles to accommodate different scanning situations. The first eight profiles will be assigned a shortcut key.

We recommend that you do not update the "Default settings" profile, as it can be restored only by using the Scanner Configuration Utility or by reinstalling VRS.

Kofax VRS ISIS Interface

If you are using the Kofax VRS ISIS interface to access VRS with an ISIS-based scanning application, you can create and manage profiles directly from the VRS tab in the Kofax VRS ISIS interface. To update the profile settings, you access the VirtualReScan Profile Editor directly from the Kofax VRS ISIS interface. Then you update the settings in the VRS Adjustment Controls and the Advanced Properties dialog box (if applicable). Once you click Save from the VirtualReScan Profile Editor, the settings are saved to the active profile. For details, see the VRS Help.

Creating a Profile

You can create a profile by doing one of the following:

- Saving the current VRS Adjustment Controls settings under a new profile name
- Creating a profile from the Organize Profiles dialog box
- Creating a profile from the Kofax VRS ISIS interface

Before creating a profile, note the characters that are not acceptable for profile names, as shown in Table 2-7.

Table 2-7. Invalid Characters for VRS Profile Names

Character	Description	Character	Description
:	Colon	?	Question mark
*	Asterisk	"	Double quotation mark
\	Backslash	>	Greater than
/	Slash	<	Less than
|	Pipe		

▶ **To save the current VRS Adjustment Controls settings under a new profile name**

1 Scan a sample image.

2 Open the VRS Interactive Viewer and make selections from the VRS Adjustment Controls to achieve the desired adjustments.

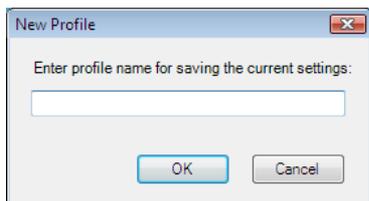**3** Select Profile | Save As to open the New Profile dialog box.

Figure 2-20. New Profile Dialog Box

4   In the New Profile text box, assign a name to the new profile. Be sure to assign a profile name with alphanumeric characters and avoid the characters listed in Table 2-7.

5   Click OK to save the profile and close the New Profile dialog box.

The new profile name will be added to the list of profiles, and it will also become the active profile.

▶   **To create a new profile from the Organize Profiles dialog box**

1   Scan a sample image.

2   Open the VRS Interactive Viewer and make selections from the VRS Adjustment Controls to achieve the desired adjustments.

3   From the VRS Interactive Viewer, select Profile | Organize. The Organize Profiles dialog box will display (Figure 2-21).
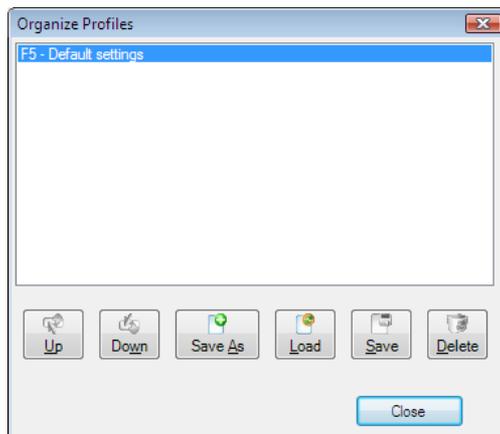
Figure 2-21. Organize Profiles Dialog Box

4   Click Save As to open the New Profile dialog box, as shown in Figure 2-20 on the previous page.

5   In the New Profile text box, assign a name to the new profile. Be sure to assign a profile name with alphanumeric characters and avoid the characters listed in Table 2-7.

6   Click OK to save the profile name and close the New Profile dialog box.

7   Click Close to exit the Organize Profiles dialog box.

VRS automatically associates a function key to the first eight profiles that you create. You can change the sequence of any profile and its associated function key by moving

a profile up or down with the Up and Down controls that are available in the Organize Profiles dialog box. The function keys for profiles are available only when the VRS Interactive Viewer is active. If the list of profiles exceeds the available viewing area in the Organize Profiles dialog box, you can use scroll bars to bring additional profiles into view.

▶ **To create a new profile from the Kofax VRS ISIS interface**

1   Open the Kofax VRS ISIS interface.

2   Select the VRS tab.

3   Click New.

    The New VRS Profile dialog box is displayed.

4   From the "Initial Settings Based On" list, select an existing profile on which the new VRS profile will be based.

5   In the New VRS Profile Name field, type a name for the new VRS profile.

6   Click OK.

    The new profile is added to the VRS Profile Name list in the Kofax VRS ISIS interface.

7   While the new profile is active, click Edit to open the VirtualReScan Profile Editor to update the new profile with unique settings (see *Updating a Profile* on page 43).

Changing the Active Profile

You can change the active profile from the Organize Profiles dialog box, the VRS Interactive Viewer toolbar, or the Profile submenu on the VRS taskbar menu.

Note If an image is open in the VRS Interactive Viewer when you change the active profile, the image is refreshed with the new settings.

▶ **To change the active profile from the Organize Profiles dialog box**

1   From the VRS Interactive Viewer, select Profile | Organize. The Organize Profiles dialog box will be displayed.

2   From the list, select the profile you want to use.

3   Click Load. (This step is important; clicking Close without clicking Load will not change the active profile.)

4   Click Close to exit the dialog box.

▶ **To change the active profile from the VRS Interactive Viewer toolbar**

    1 From the VRS Interactive Viewer toolbar, place your cursor in the profiles list to expand the list of saved profiles.
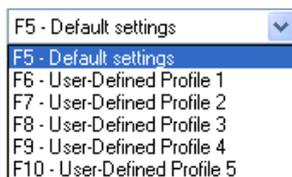

Figure 2-22. VRS Profile Selection List

    2 Do **one** of the following:

- From the list of profiles, select the profile that you want to use.
- Press the function key associated with the profile that you want to use.

The profile selection stays in effect until you change it again.

▶ **To change the active profile from the VRS taskbar menu**

    1 From the VRS taskbar menu, select the Profile command.

    2 When the Profiles submenu opens, select the name of the profile you want to use.

The profile selection stays in effect until you change it again.

▶ **To change the active profile from the Kofax VRS ISIS interface**

    1 From the Kofax VRS ISIS interface, select an ISIS preset.

    2 Select the VRS tab.

    3 In the VRS Profile Name list, select the name of the profile that you want to associate with the active preset.

    4 Click OK.

Updating a Profile

If desired, you can update and save the settings associated with an existing profile.

▶ **To update a profile**

    1 From the VRS Interactive Viewer toolbar, select a profile name.

    2 From the VRS Adjustment Controls, update the settings associated with the currently selected profile.

3   Select Profile | Save.

- or -

4   From the VRS Adjustment Controls, update the settings associated with the currently selected profile.

5   From the VRS Interactive Viewer, select Profile | Organize Profiles. The Organize Profiles dialog box is displayed.

6   Make sure that the appropriate profile is selected from the profile list and then click Save.

7   Click Close to exit the Organize Profiles dialog box.

▶   **To update a profile from the Kofax VRS ISIS interface**

1   Open the Kofax VRS ISIS interface.

2   Select the VRS tab.

3   In the VRS Profile Name list, select the name of the profile you want to update.

Note   You cannot edit the "Default settings" profile.

---

4   Click Edit.

The VirtualReScan Profile Editor is displayed. Notice that the profile name is unavailable in the toolbar.

5   In the VRS Adjustment Controls, update the settings to suit your preferences.

6   If applicable, select Tools | Advanced Properties to update the settings in the Advanced Properties dialog box.

7   Click Save.

Your adjustments to the VRS Adjustment Controls and the Advanced Properties dialog box are saved to the active VRS profile.

Removing a Profile

You can use the Organize Profiles dialog box to delete a profile. If desired, multiple profiles can be deleted at once.

We recommend that you do not remove the "Default settings" profile, because it can be restored only by using the Scanner Configuration Utility or by reinstalling VRS. For more information, refer to *Scanner Configuration Utility* on page 85.

▶ To remove a profile

1 From the VRS Interactive Viewer, select the Profile | Organize. The Organize Profiles dialog box will display.

2 From the profiles list, select the profile you want to remove. If desired, you can select multiple profiles for removal.

3 Click Delete. The profile name is removed from the list.

4 If the deleted profile was the last profile in use, select another profile from the list and then click Load to make it active.

5 Click Close to exit the Organize Profiles dialog box.

▶ To remove a profile from the Kofax VRS ISIS interface

1 Open the Kofax VRS ISIS interface.

2 Select the VRS tab.

3 In the VRS Profile Name list, select the name of the profile you want to delete.

Note You cannot delete the "Default settings" profile.

4 Click Delete.

5 Click Yes when you are prompted to confirm the deletion.

The profile is removed from the VRS Profile Name list.

Previewing Images

If desired, you can use the preview process to scan a sample image to ensure that it meets your quality requirements and to validate the settings in the current profile. If necessary, you can make adjustments to the profile. If your scanner supports advanced features, you can use the preview process to test settings such as color dropout, JPEG compression, etc. Use the Preview feature before you scan a batch of documents, or to adjust the settings between batches.

When you select Preview, VRS opens the most recently scanned image in the VRS Interactive Viewer. For this reason, the Preview function is available only if a scanned image exists in the VRS cache (if you are using VRS with a production class scanner, the last image may not be available). As you apply property changes from the VRS Interactive Viewer, the preview image is refreshed so you can evaluate the impact of the adjustments. Be aware that the changes to the preview image are not sent to your

scanning application; the image is intended only for preview purposes. You can invoke the preview process by selecting the following:

- Preview from the VRS taskbar menu
- First Page from the QC Modes menu
- Preview check box from the TWAIN scanning interface

For information on the VRS Interactive Viewer window and using the Zoom options, refer to *Using the VRS Interactive Viewer* on page 48. For information on updating image properties, refer to *Using the VRS Adjustment Controls* on page 56.

▶ **To preview an image**

1 Scan a document that is similar to the type you plan to scan in a batch.

2 From the VRS taskbar menu, select Preview. The VRS Interactive Viewer will open and display the image that you scanned.

3 If desired, select a zoom option to adjust the magnification level.

4 If necessary, use the VRS Adjustment Controls to adjust the image property settings to suit your preferences. For more information, refer to *Using the VRS Adjustment Controls* on page 56.

5 If you expect to use the updated settings on a regular basis, you can save them as a profile. Refer to *Working with Profiles* on page 39.

6 When you are satisfied with the preview image, select OK from the VRS Adjustment Controls. The property settings are saved and put into effect for the next batch of documents that you scan with VRS. Note that the preview image is discarded; it is not sent to the scanning application.

Using the Status and Analysis Information

The VRS Interactive Viewer gives you image status information, along with analysis statistics that summarize the properties for the current image in the viewing pane. The image status message appears in the title bar and indicates the status of the current image, such as "Status: OK" or "Brightness Out of Range."
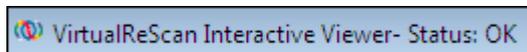

Figure 2-23. Image Status Information

The image analysis information appears in the VRS Interactive Viewer status bar and includes the following properties:

- Size: Lists the image dimensions in pixels.
- Skew: Lists the detected skew angle in degrees.
- Brightness: Lists the detected brightness value as a percentage.
- Contrast: Lists the detected contrast value as a percentage.
- Color: Lists the detected image type as "color" or "bitonal," along with a confidence value expressed as a percentage. The percentage is listed only if Automatic Color Detection is enabled.
- Speckles: Lists the number of pixels that are removed from the image when Speckle Removal is selected from the Noise panel.

The analysis information can help you identify appropriate threshold values for contrast, brightness, and color confidence on the Warnings tab in the VirtualReScan Administration Utility, as well as for settings for the VRS Adjustment Controls. You cannot edit the analysis information on the status bar (Figure 2-24).

Size:1678 x 2205	Skew:-0.08°	Brightness:56	Contrast:45	Color:100	Speckles:0

Figure 2-24. Image Analysis Information

Using the VRS Interactive Viewer

The VRS Interactive Viewer displays scanned images for your inspection and gives you access to the VRS Adjustment Controls, which can be used to apply changes to image properties (refer to *Using the VRS Adjustment Controls* on page 56). The purpose of the viewer is to show you what the image looks like when it scans, and to refresh the image as you apply changes.

The VRS Interactive Viewer is displayed under the following conditions:

- You select Preview from the VRS taskbar menu. Refer to *Previewing Images* on page 45.
- VRS intercepts or "traps" an exception image for which the response is defined as "Interactive." Refer to *Using the VirtualReScan Administration Utility* on page 26.
- As appropriate for the active operating mode. Refer to *Setting the VRS Operating Mode* on page 37.

In addition to the VRS Adjustment Controls, the VRS Interactive Viewer consists of other components: a menu, a toolbar, and a status bar.
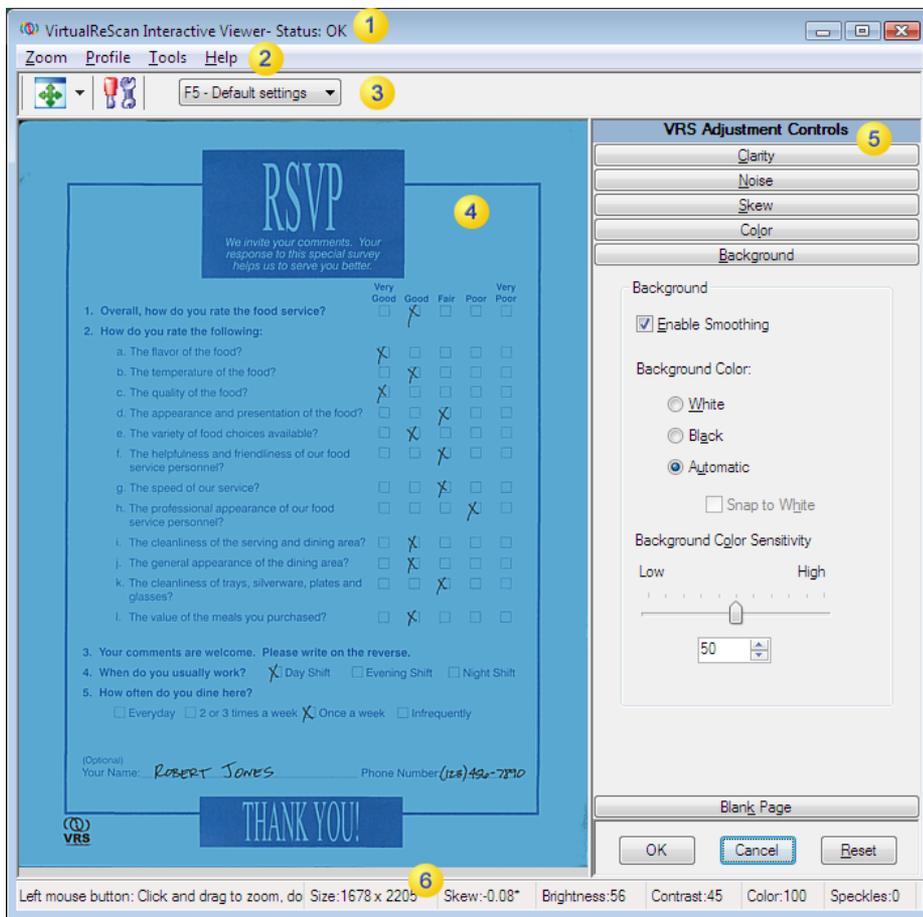
Figure 2-25. VRS Interactive Viewer

①　　　Image status information (Page 46)

②　　　VRS Interactive Viewer menu bar (Page 51)

③　　　VRS Interactive Viewer toolbar (Page 54)

④　　　Image viewing area

⑤　　　VRS Adjustment Controls (Page 56)

⑥　　　Image analysis information (Page 46)

Scroll Bars

If you resize the VRS Interactive Viewer so that the individual controls do not fit within the available space, horizontal and/or vertical scroll bars are displayed so that you can navigate to the controls that are not in view.

Persistence

The size and state of the VRS Interactive Viewer are maintained from one scanning session to another.

Focus

To navigate among the panels that make up the VRS Adjustment Controls, you can use Ctrl +↓ to navigate to the panels below the one that is currently selected. You can use Ctrl +↑ to navigate to the panels that precede the one that is currently selected.

Minimize / Maximize / Close

At the upper right corner of the VRS Interactive Viewer, the Minimize, Maximize, and Close buttons work as follows:

- If you select Minimize, the VRS Interactive Viewer window is minimized to the taskbar.
- If you select Maximize, the VRS Interactive Viewer window covers the full computer screen.
- If you select Close, it is the same as selecting Cancel.

Button Controls

Three button controls (OK, Cancel, Reset) are available from the VRS Interactive Viewer.

OK

Click OK to transmit the current settings to your scanning application. If the VRS Interactive Viewer opened because of an exception, the settings will only apply to the image in question. If the viewer appeared as the result of a First Page QC mode, or in connection with the Preview option, then the changes apply to subsequent scans or batches.

Cancel

Click Cancel in Preview to close the VRS Interactive Viewer without applying any changes. If an exception is detected when scanning, click Cancel to return an error (without the error image itself) to the scanning application. In addition, the batch scan will be stopped.

Reset

Click Reset to clear any changes and restore all VRS Adjustment Controls settings to their original values. After selecting Reset, you can continue by updating or saving the original values.

VRS Interactive Viewer Menu Bar

This section explains each command that is available from the VRS Interactive Viewer menu bar. The availability of some commands may vary, according to the features supported by your VRS license and your scanner.

**Table 2-8. VRS Interactive Viewer Menu Commands**

Menu Command	Description	Keyboard Shortcut
Zoom menu	Open the Zoom menu.	Alt+Z
Profile menu	Open the Profile menu.	Alt+P
Profile | Save As	Open the New Profile dialog box.	Alt+P+A Ctrl+N
Profile | Save	Save a profile.	Alt+P+S Ctrl+S
Profile | Organize	Open the Organize Profiles dialog box.	Alt+P+O Ctrl+O
Tools menu	Open the Tools menu.	Alt+T
Tools | Scanner Driver Settings	Open the Advanced Settings dialog box or the Advanced Properties dialog box.	Alt+T+S
Tools | Enable Professional Features Demo	Activate VRS Professional features in demonstration mode.	Alt+T+P
Help menu	Open the Help menu.	Alt+H

Table 2-8. VRS Interactive Viewer Menu Commands

Menu Command	Description	Keyboard Shortcut
Help	VRS Help	Open the VRS online Help system.	Alt+H+H
Help	User's Guide	Open the *VRS User's Guide* in PDF format.	Alt+H+U
Help	About VRS	Open the About dialog box, which includes VRS version and license information, along with contact information for Kofax, Inc.	Alt+H+V

Zoom Menu

The Zoom menu lists a range of magnification settings that can be applied to the images that display in the image viewing area of the VRS Interactive Viewer.
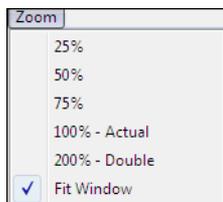
Figure 2-26. VRS Interactive Viewer Zoom Menu

From the Zoom menu, you can select an option to magnify or reduce the image that appears in the left pane of the VRS Interactive Viewer. You can also adjust the image view with the left and right mouse buttons.

- Using the left mouse button, you can do the following:
  - View part of the image by clicking and dragging the selection rectangle across the area you want to magnify.
  - Restore the image to the standard view by double-clicking the image.
- Using the right mouse button, you can do the following:
  - Once you have zoomed in on an image, click and drag (or pan) the image in the viewing pane.

You can also adjust the image magnification setting by using the Zoom tool on the VRS Interactive Viewer toolbar. Refer to *Zoom Tool* on page 54.

Profile Menu

You can use the Profile menu to create and manage VRS profiles. Each profile represents a saved combination of settings on the panels in the VRS Adjustment Controls. A profile works like a memorized strategy for image correction and enhancement. With the exception of the "Default settings" profile, which is predetermined and automatically included in your VRS installation, profiles are created by the user. VRS uses the "Default settings" profile unless you select another profile. The active profile selection is unique for each VRS user on your computer.

Save As

Use this command to assign a name to a new profile, and then save it. When you select "Save As," the New Profile dialog box opens so that you can assign the profile name. For details, refer to *Working with Profiles* on page 39.

Save

Use this command to save modifications to the currently selected profile. For details, refer to *Working with Profiles* on page 39.

Organize

Use this command to open the Organize Profiles dialog box, which is used to create profiles and manage existing profiles. For details, refer to *Working with Profiles* on page 39.

Tools Menu

You can use the Tools menu commands to access advanced settings for certain scanners, and to preview VRS Professional features. The Tools menu is available only if the VRS Interactive Viewer opens in preview mode, or as a result of selecting the First Page or Every Page operating mode.

Scanner Driver Settings

If applicable to your installation, this menu command is used to access the driver that VRS uses to connect to the scanner. The "Scanner Driver Settings" command will not be available unless your scanner driver supports advanced options. When available, the command opens the Advanced Settings dialog box or the Advanced Properties dialog box, so that you can view and adjust additional settings associated with your scanner. The availability of the options on the advanced dialog boxes varies from one scanner to another. For more information, refer to *Using Advanced Features* on page 80.

Enable Professional Features Demo

This menu command is available only if a VRS "Basic" license is in effect. You can use this command to enable a demonstration of the VRS Professional features. While this mode is enabled, you have full access to the VRS Professional features and a "Kofax Demo Mode" stamp is applied to any images that you scan. For details, refer to *Enabling the Professional Features Demo* on page 78.

Help Menu

You can use the Help menu to access the VRS online Help system and documentation. From the Help menu, you can also view the About dialog box.

VRS Help

Use this command to open the VRS online Help system.

User's Guide

Use this command to open the *VRS User's Guide* in PDF format.

About VRS

Use this command to open the About dialog box, which lists VRS version and license information, along with contact information for Kofax, Inc.

VRS Interactive Viewer Toolbar

The VRS Interactive Viewer toolbar gives you convenient shortcuts for selecting zoom options, advanced scanner properties, and profiles.
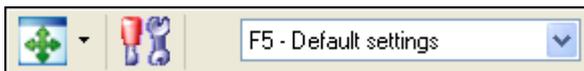

Figure 2-27. VRS Interactive Viewer Standard Toolbar

Zoom Tool

Use the Zoom tool to select different image magnification options, which are also available from the Zoom menu (refer to *Zoom Menu* on page 52).
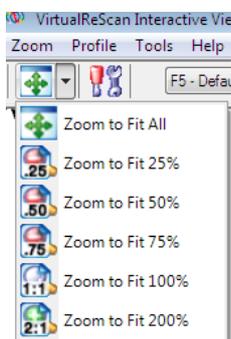
Figure 2-28. Zoom Tool Options

Scanner Driver Settings Tool

Select this tool to view advanced settings (in the Advanced Settings dialog box or the Advanced Properties dialog box) associated with the selected scanner. The "Scanner Driver Settings" tool will be available only if your scanner supports advanced options. The availability of the advanced settings may vary, according to the scanner that you specified during the VRS installation process. You can also access advanced settings by selecting the "Scanner Driver Settings" command from the Tools menu. For more information, refer to *Using Advanced Features* on page 80.

Figure 2-29. Scanner Driver Settings Tool

Profile Selection List

Use the profile selection list on the toolbar to view or change the active profile selection. You can also select a profile from the Organize Profiles dialog box or the Profile submenu that is available from the VRS taskbar menu. For more information, refer to *Working with Profiles* on page 39.
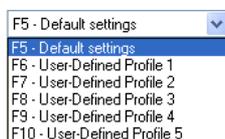

Figure 2-30. VRS Profile Selection List

Using the VRS Adjustment Controls

The VRS Adjustment Controls consist of six panels that give you options for adjusting image properties. The default settings are saved to a VRS profile called "Default settings." Once you identify a set of adjustments that work well for a particular document type, you can save them in a custom profile that can be used in place of the default profile. For more information, refer to *Working with Profiles* on page 39.
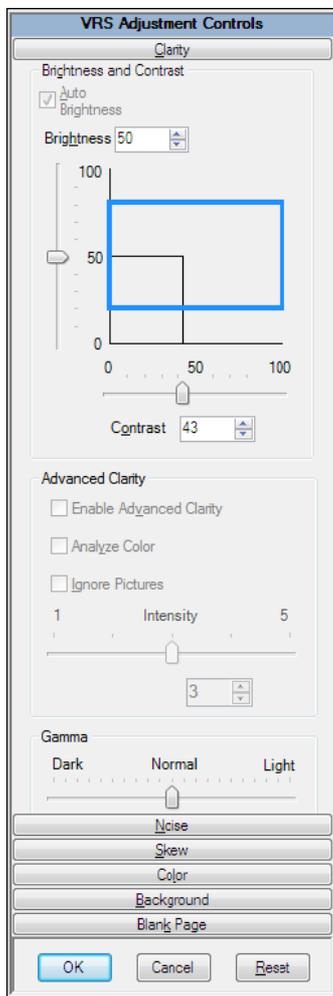

Figure 2-31. VRS Adjustment Controls

Using the Clarity Panel

This section gives you details about the Clarity panel, which gives you options to adjust the contrast, brightness, and gamma values for an image. In general, a high Contrast value enhances faint text and lines in your documents. Since brightness increases or decreases the overall density of your images, increasing the brightness level can clear up dark shaded documents. Gamma Correct is used to adjust images created with incorrect gamma encoding.
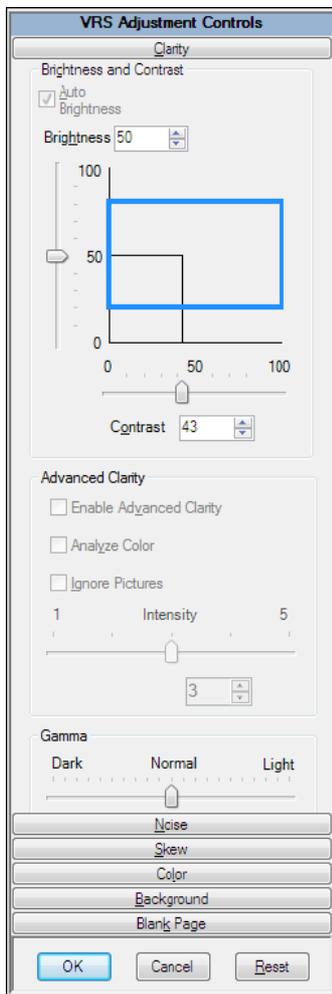

Figure 2-32. Clarity Panel

Brightness and Contrast

When the Auto Brightness check box is selected, VRS automatically assigns optimal values for brightness and displays those values in the manual Brightness slider and numeric text box. The Auto Brightness setting is not applicable when you scan in color mode.

Moving the Brightness slider, entering a value in the Brightness numeric text box, or clicking in the Brightness-Contrast custom control turns off Auto Brightness.

Figure 2-33. Auto Brightness Check Box

Edge Detection

Edge detection in VRS is controlled with the Contrast slider. Edge detection, or edge finding as it is sometimes called, is a technology that can recognize transitions of one gray level to another level. The larger the difference between the levels of gray, the more "edgy" the object is. With a low contrast level, only very edgy objects become black (such as black text on a white background); very faint text and lines would still not appear because the transition from a white background to light gray is relatively minor. Faint text and lines are therefore not "edgy." A background, because it does not have transitions from one level of gray to another, would not be edgy. A gradient, because there are no sudden transitions from one level of gray to another, would not be edgy.

Even something that is technically invisible to the eye, such as a piece of transparent tape placed on a document, could be detected when contrast is set high enough, since there is ultimately a transition from the tape to the paper surrounding it.

Manual Image Adjustment

VRS provides the option to manually adjust the settings for an image or images. You can use the Clarity panel to make the adjustments.

Brightness-Contrast Custom Control

The Clarity panel includes custom controls (visual markers) to assist you in identifying the optimal range for brightness and contrast.
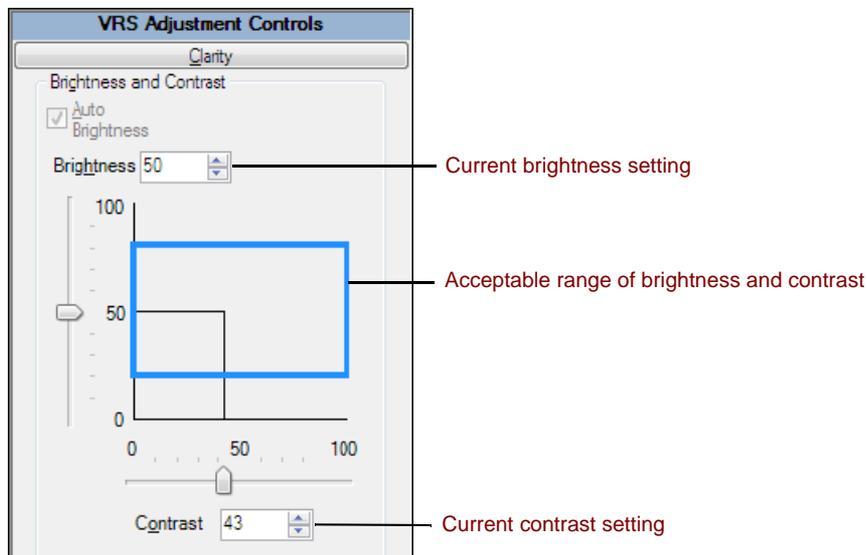
Figure 2-34. Brightness-Contrast Custom Control

The Brightness-Contrast custom control indicates the current value of the Brightness setting by means of a horizontal solid black line. The Brightness-Contrast custom control indicates the current value of the Contrast setting by means of a vertical solid black line. When Auto Brightness is enabled, the black lines (along with the slider) are automatically adjusted to reflect the automatic brightness adjustment.

The Brightness-Contrast custom control indicates the current acceptable range of detected brightness and detected contrast values by means of a rectangle with solid blue lines. This box shows you the region of acceptable Brightness and Contrast values. The box is centered on the 50-50 baseline settings for Brightness and Contrast, with the borders representing the Brightness and Contrast threshold values from the VirtualReScan Administration Utility dialog box. Valid VRS-detected values must fall within the blue box. VRS detected values that fall outside the blue box borders are invalid and they generate warnings.

Brightness Text Box

When the VRS Interactive Viewer is launched, the Brightness numeric text box on the Clarity panel indicates the current Brightness setting. If desired, the Brightness setting may be changed manually using the Brightness numeric text box. Brightness may be set from 0 (very dark) to 100 (very bright) for black and white, grayscale, or color images. Keep in mind that the manual brightness setting is not shared between black and white, grayscale, and color modes. Changing the value of the manual brightness

setting in black and white mode does not affect the value of the manual brightness setting in grayscale or color mode, because VRS keeps these values separate.

Contrast Text Box

When the VRS Interactive Viewer is launched, the Contrast numeric text box indicates the current value of the Contrast setting. The Contrast value of an image may be set manually using the Contrast numeric text box. The Contrast value may be set from 0 (very low contrast) to 100 (very high contrast). Similar to the Brightness setting, the Contrast setting is not shared between black and white, grayscale, and color modes. You must enter a separate Contrast value for each mode.

Gamma Slider and Gamma Correct Text Box

The Gamma slider and Gamma numeric text box indicate the current value of the Gamma setting, which can range from -100 (very dark gamma) to +100 (very light gamma). Gamma may be set for black and white, grayscale, and color images, but is only shared between black and white and grayscale modes. This means that changing the value of the Gamma setting while in black and white mode also changes the Gamma setting for grayscale mode because VRS internally uses a single value to represent gamma for black and white and grayscale.

The Gamma setting is not shared between non-color and color modes. Changing the value of the Gamma setting in black and white mode does not affect the value of the Gamma setting in color as VRS uses a dedicated value to represent color gamma.

Advanced Clarity (VRS Professional only)

The Advanced Clarity function is available for challenging documents that cannot be processed adequately with the standard brightness/contrast adjustments and thresholding.
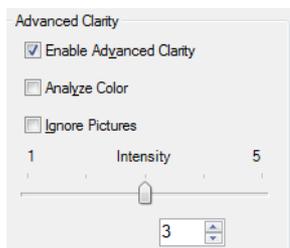

Figure 2-35. Advanced Clarity Setting

For example, you may notice that some airline tickets produce less than optimal image quality results when they are scanned with the default VRS settings, because the patterned background is dense and difficult to suppress. With the Advanced

Clarity feature enabled, VRS can process the background successfully and produce optimal results.

If you have documents that are particularly challenging, you may achieve better results by applying a profile with the Advanced Clarity feature turned on.

When Advanced Clarity is enabled, you can use the Intensity slider to control the degree of special processing that is applied. A setting of 1 requires less processing, while a setting of 5 corresponds to more aggressive processing (which may be required in special cases). You can also use the text box instead of the slider to specify the Intensity setting.

Note If you make manual adjustments with the Brightness or Contrast controls, the Advanced Clarity setting is turned off automatically.

▶ **To update the Clarity panel settings**

1   From the VRS Adjustment Controls, select the Clarity panel.

2   Do **one** of the following:
    - To adjust the contrast and brightness at the same time, click within the boundaries of the brightness/contrast grid, then insert the pointer so that the intersection of the crosshairs represents the desired values for brightness and contrast. For best results, stay within the blue rectangle.
    - To adjust the contrast and brightness separately, skip to the next step.

3   In the Brightness text box, VRS displays the current brightness setting. To change the setting, do **one** of the following:
    - Click the arrows on the Brightness text box to increase or decrease the brightness level.
    - Click in the Brightness text box and type in a value.
    - Move the Brightness slider control up or down to select a value.
    - Select the Auto Brightness check box to have VRS automatically assign the Brightness value. Auto Brightness is available for bitonal (black and white) or grayscale scanning only.

Note As soon as you change the brightness value, the Auto Brightness option is automatically disabled. To enable it again, select Auto Brightness again and VRS will calculate and reapply the brightness level automatically.

4 In the Contrast text box, VRS displays the current contrast setting. To change the setting, do **one** of the following:

- Click the arrows on the Contrast text box to increase or decrease the contrast level.
- Click in the Contrast text box and type in a value.
- Move the Contrast slider control left or right to select a value.

5 From the Advanced Clarity group, select the Enable Advanced Clarity check box to turn on the feature that applies advanced processing to identify the optimal contrast and brightness settings for challenging documents.

Note Advanced Clarity is available only for documents that are scanned in bitonal mode. It is also available for documents that are scanned in color mode and then output as bitonal using the Automatic Color Detection feature. For more information, refer to *Using the Color Panel* on page 70.

---

6 If you enable Advanced Clarity, the following settings are available:

- Analyze Color: For pages that contain a color background or color text, this option produces optimal black and white images by including subtle color content variations in the page evaluation. Otherwise, only grayscale variations are evaluated.

  Note While this setting is active, the color analysis may adversely affect scanner performance.

- Ignore Pictures: Ignores pictures or photos when VRS evaluates the page content. As a result, the clarity improvements are applied to other (non-picture) content on the page.

7 If you enable the Advanced Clarity feature, move the slider to the left or right to select the desired level of intensity, as follows:

- Move the slider to the left (toward 1) to apply minimal processing.
- Move the slider toward the midpoint (3) to apply more aggressive processing.
- Move the slider toward 5 to apply the most aggressive processing (which may be required in special cases).

Note The default Intensity setting is appropriate for most document types. If you change the setting, it persists until you change it again or apply a profile that uses a different setting.

---

8   As an option, you can use the text box instead of the slider to specify the intensity value. Do **one** of the following to specify a value from 1 to 5:

- Click in the text box and type in a value.
- Click the arrows in the text box to change the value.

Note If you enable the Advanced Clarity feature and subsequently make manual adjustments to the brightness and contrast values, the Advanced Clarity function will be turned off.

---

9   In the Gamma text box, VRS displays the gamma correction setting. The correction values range from Dark to Light, with Normal at the midpoint. To change the setting, do **one** of the following:

- Click the arrows on the Gamma Correct text box to increase or decrease the gamma level.
- Click in the Gamma text box and type in a value.
- Move the Gamma slider control left or right to select a value.

10   Click OK.

Using the Noise Panel

You can use the filters on the Noise panel to enhance image quality and remove excessive speckling. Also, you can use the Fill Holes option to fill in hole marks with the background color of the surrounding area.

As you adjust the Noise settings, the effects are applied to the image in the VRS Interactive Viewer window. You can fine-tune the settings until the image appearance meets your quality standards.
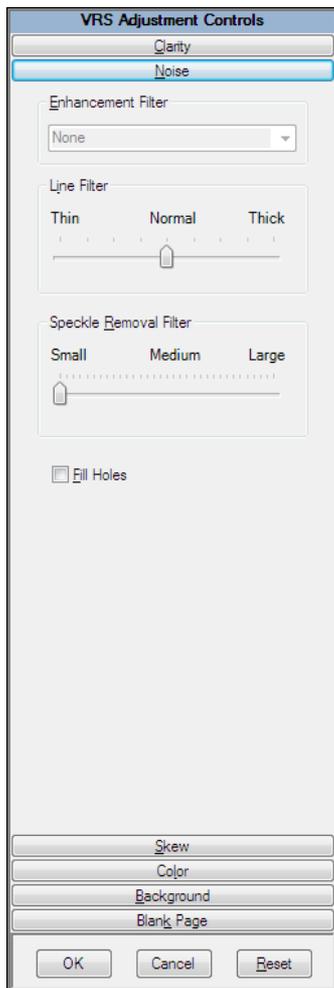

Figure 2-36. Noise Panel

Removing Noise from a Document

Follow these general rules for removing noise from a document:

- If you have batches of mixed documents with varying quality, never use the Speckle Removal filter. You could risk losing information on documents.
- If the noise was produced by bleed-through of text from the back side or background patterns (such as the patterns commonly found on boarding passes), decrease the contrast from the Clarity panel. If text starts to disappear as you remove the noise, compensate by adjusting the Brightness slider to a lower setting.
- If the noise is produced by shaded backgrounds, gradients, or dark-colored paper, increase the brightness from the Clarity panel.
- If you have only one or two kinds of documents with consistent quality, try to apply various levels of the speckle removal filters.
- If the filter removes part of the characters even at low levels of the speckle removal filter, apply the rules for mixed batches.

Filling Holes

When scanning pages with marks from notebook holes or tractor feed holes, you may prefer not to retain the hole marks in the scanned image. If you select the Fill Holes check box, VRS will automatically fill in the hole marks on the images with the background color of the surrounding area.

Note This feature is supported with scanners that produce images with a black background.

▶ To update the Noise panel settings

1. From the VRS Adjustment Controls, select the Noise panel.

2. Use the Line Filter slider to select the amount of thinning/thickening to apply to image elements.
   - Move toward Thin for image elements ballooned or blended together.
   - Move toward the Thick setting for image elements too thin or too light.

3. Use the Speckle Removal Filter slider to remove unwanted black dots.
   - Move the slider toward Small if removal of small dots will achieve the desired image quality.
   - Move the slider toward Medium if removal of small and medium dots will achieve the desired image quality.

- Move the slider toward Large if removal of small, medium, and large dots will achieve the desired image quality. Moving the slider too far to the right may interfere with text recognition.

4   Select the Fill Holes check box to enable the feature that replaces hole marks (such as notebook paper hole marks) with the color of the area surrounding the holes.

5   Click OK.

Using the Skew Panel

You can use the Skew panel to select settings that control automatic deskew, auto crop and edge cleanup, as well as auto orientation, which is used to automatically rotate a page that scans in a non-standard orientation. The Skew panel also gives you options to perform manual skew adjustment on an image.

Images can be rotated up to 360 degrees clockwise or counter-clockwise using the movable angle control arm, or they can be automatically deskewed if you select the Deskew check box. If necessary, you can fine-tune the rotation with the Fine Angle Adjustment slider. When the Angle box lists 0.00, the image is displayed as it was originally scanned.
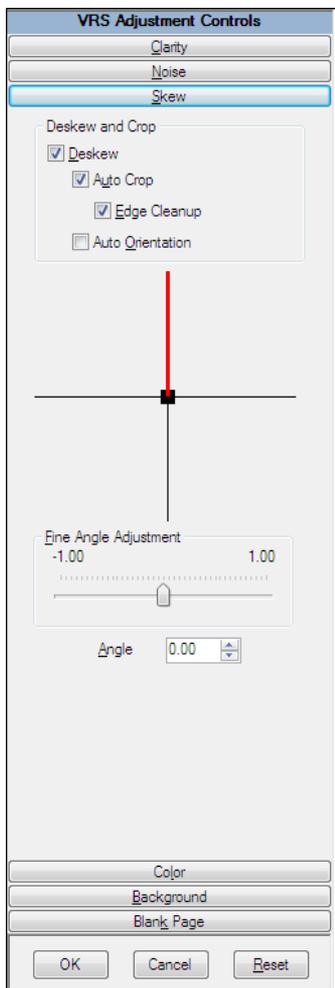
Figure 2-37. Skew Panel

Deskew Option

Use the Deskew option to automatically straighten any images that are skewed. You can achieve excellent results with black background or white background scanners.
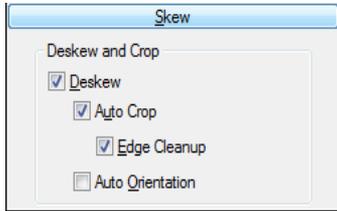
Figure 2-38. Skew Panel - Deskew and Crop Options

Auto Crop and Edge Cleanup Options

Use the Auto Crop option to automatically crop every page to its original size. Auto Crop is important for a precise registration of each image in order to perform accurate optical character recognition (OCR). You can use Edge Cleanup to automatically remove black borders from an image. It is different from image cropping because it does not crop the image to its actual size. Instead, it replaces any black pixels in the border around the image with white pixels, preserving the width and length of the image size determined by the image crop.

Auto Orientation

You can select the Auto Orientation check box to turn on the feature that performs automatic page rotation. With this feature enabled, VRS will automatically rotate a page that is scanned in a non-standard orientation. As a result, you do not have to perform manual rotation after the image is scanned. This feature eliminates the need to pre-sort batches of documents to ensure that they are facing in the same direction. With Auto Orientation enabled, you can place a stack of documents in the scanner feeder without checking to make sure that they are facing the same way, and VRS will automatically rotate the images at scan time, if necessary.

Note Auto Orientation may conflict with the rotation options that are available with some scanners that support advanced features. If you are using VRS with such a scanner, we recommend that you enable either Auto Orientation or the advanced rotation options, but not both. For more information, refer to *Rotation Panel* on page 121.

▶ **To change the Skew panel settings**

1   From the VRS Adjustment Controls, select the Skew panel.

2   Select the desired Deskew and Crop options.

3   Select Auto Orientation if you want VRS to automatically rotate a page that scans in the non-standard orientation.

4   If automatic deskew is not selected, you can use the movable angle control arm to straighten an image by clicking anywhere on the grid. You can also adjust the skew as follows:

   a   Position the mouse over the vertical arm, click, and hold. The cursor will change to a hand.

   b   Drag the arm counter-clockwise to rotate the image to the left, or clockwise to rotate it to the right. You can rotate the image up to 360 degrees.

5   If desired, use the Fine Angle Adjustment slider to fine-tune the deskew angle in single degree or partial degree increments, as follows:

   a   Move the slider all the way to the left to complete a one-degree, counter-clockwise angle adjustment.

   b   Move the slider all the way to the right, to complete a one-degree, clockwise angle adjustment.

   c   Move the slider to a position in between the leftmost or rightmost setting, to select an angle shift that is less than a full degree. Each line on the slider scale represents 0.05 degrees.

6   Click OK.

Using the Color Panel

Use the Color panel to specify your preferences for Automatic Color Detection and related processing options. VRS uses the Automatic Color Detection process to determine if an image has any color content. If no color content is detected, then the document is processed as a bitonal image. When using Automatic Color Detection, it is important to test your settings on a sample document that is similar to the documents you expect to scan. The adjustments that you make to the Color Sensitivity and the Color Area Sensitivity settings will directly affect the outcome of the Automatic Color Detection process.
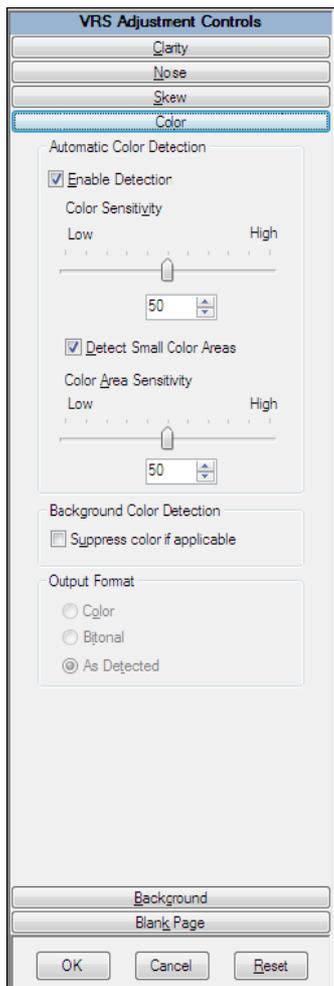
Figure 2-39. Color Panel

Note The availability of the Color panel depends upon your VRS license and scanner, as well as the active scanning mode, which must be set to "Color."

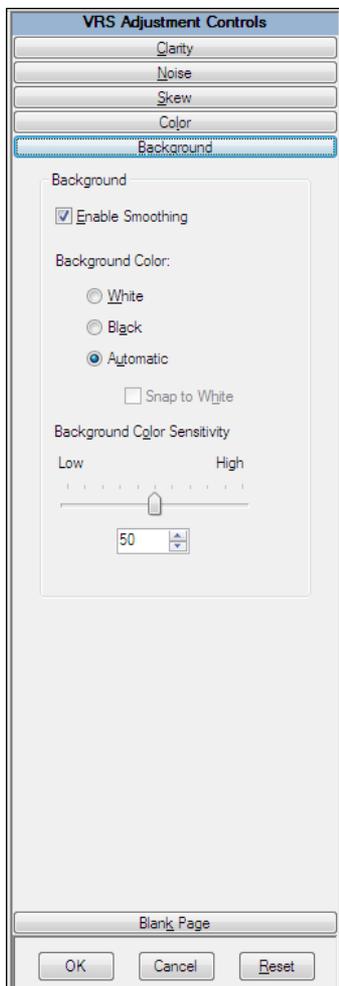▶ **To configure the Color panel settings**

1   From the VRS Adjustment Controls, select the Color panel.

2   Select the Enable Detection check box if you want to enable Automatic Color Detection. If this check box is not selected, a color image is always returned when you scan in color mode, regardless of the extent of the color content in the document.

    Note When VRS is used with an ISIS-based scanning application, Automatic Color Detection is activated from the Kofax VRS ISIS interface or the scanning application, rather than the Color panel. In this situation, the Enable check box is unavailable on the Color panel. The other Color panel settings are available as usual.

3   Adjust the Color Sensitivity setting (possible values range from 1 to 100) by doing one of the following:

    ▪   Move the slider to the left to decrease the likelihood of detecting a color document.
    ▪   Move the slider to the right to increase the likelihood of detecting a color document.
    ▪   Click the arrows of the text box to increase or decrease the Color Sensitivity value.
    ▪   Click in the Color Sensitivity text box and type a value.

4   Select the Detect Small Color Areas check box if you want to enable the function that is used to detect small amounts of color (such as a date stamp or small amounts of highlighter text) on otherwise bitonal documents. If this check box is not selected, the scanner may not detect small amounts of color.

5   Adjust the Color Area Sensitivity setting (possible values range from 1 to 100) by doing **one** of the following:

    ▪   Move the slider to the left to decrease the likelihood of detecting small amounts of color.
    ▪   Move the slider to the right to increase the likelihood of detecting small amounts of color.
    ▪   Click the arrows of the text box to increase or decrease the Color Area Sensitivity value.
    ▪   Click in the Color Area Sensitivity text box and type a value.

6 At Background Color Detection, select "Suppress color if applicable" to have VRS suppress the background color for images in which the foreground is bitonal.

Note The availability of the Background Color Detection feature may vary, according to the scanner that you are using with VRS.

7 You can use the Output Format settings to override the results of Automatic Color Detection. These settings apply only to the current image in a batch. These settings are available only if Automatic Color Detection is enabled. You can select the following options:

- Color: Image is processed in color, regardless of the results of the automatic color detection process.
- Bitonal: Image is processed in black and white, regardless of the results of the automatic color detection process.
- As Detected: Image color is processed according to the results of the automatic color detection process. This is the default selection.

8 If you make adjustments that you do not want to save, click Reset to clear them and restore the default values. Then continue by adjusting or saving the original values.

Using the Background Panel

Use the Background panel to select preferences that affect the way that the background region of a color image will be processed by VRS. You can use the options on the Background panel to convert and smooth the background region to black, white, or to a color that represents an "average" of the detected background colors.

Note The availability of the Background panel depends upon your VRS license and your scanner, as well as the active scanning mode, which must be set to "Color."

Figure 2-40. Background Panel

▶ **To configure the Background panel settings**

1   From the VRS Adjustment Controls, select the Background panel.

2   Select the Enable Smoothing check box to turn on the background smoothing feature, which you can use to modify the background of a color image. If this check box is not selected, the background region of a color image is not altered when it is processed.

3   Select an option for processing images with color backgrounds:

  ■ White: All background color is changed to white.

- Black: All background color is changed to black.
- Automatic: All background pixels are smoothed to the same value, representing an average of the detected background colors. This selection is appropriate only when minor variations exist in the background color.

Note If you select Automatic, the results may vary, according to the color detected in the background region of the scanned document.

4   If you selected Automatic in the previous step, the results will be directly affected by the Snap to White setting, as follows:

- If Snap to White is selected and the image background is close to white, the resulting background color is white.
- If Snap to White is selected and the background is not close to white, the background color is set to a smoothed color value determined by the scanner.
- If Snap to White is not selected, the background color is set to a smoothed color value representing an aggregate of the detected background colors.

Note The Snap to White feature is not available with all scanners.

5   Do **one** of the following to adjust the Background Color Sensitivity setting:

- Move the slider to the left to decrease the level of background region processing in color documents. A low value decreases the likelihood that a pixel will be determined to be part of the image background.
- Move the slider to the right to increase the level of background region processing in color documents. A high value increases the likelihood that a pixel will be determined to be part of the image background.
- Click the arrows of the text box to increase or decrease the Background Color Sensitivity value.
- Click in the Background Color Sensitivity text box and type a value.

6   Click OK.

Using the Blank Page Panel

Use the Blank Page panel to enable automatic detection and deletion of blank pages, a feature that is especially useful for batch scanning in duplex mode. VRS can detect and delete a blank page, based on its assessment of the content.

You use the Content Sensitivity setting to control how sensitive VRS is to page content. For example, you can configure VRS to ignore small amounts of content, such as speckles. As a result, a speckled page is considered blank, resulting in automatic

removal if blank page deletion is enabled. You can also configure VRS to detect small amounts of content, in which case the same speckled page may not be considered blank and it would not be deleted. When VRS evaluates the page content, the background color is ignored.

Depending on the content sensitivity setting, VRS may fail to identify a blank page if it contains marks caused by holes (such as notebook paper holes) near the edge of the paper. You can avoid this issue by selecting the Ignore Holes option. With Ignore Holes selected, VRS can successfully detect a blank page, even if it contains hole marks near the edges.

Some scanner and scanning applications include their own blank page deletion feature. If you are using VRS with such a scanner, we do not recommend that both blank page deletion features be enabled at the same time. For best results, select blank page deletion from VRS and turn off the counterpart feature.

With ImageControls scanning applications, you can enable VRS blank page detection without deletion. In this case, the scanning application receives a notification from VRS that a blank page has been detected. Instead of deleting the page, VRS sends it to the scanning application, which can be configured to handle the page according to your preference.

When the VRS QC mode is set to First Page and the first page is blank, it is clearly identified in the VRS Interactive Viewer as a detected blank page or a page to be deleted. Similarly, if the QC mode is set to Every Page, any blank page that appears in the viewer is identified the same way (Figure 2-42). Blank pages that are not marked for deletion are sent to the scanning application.

If a page is removed as a result of blank page deletion, any exceptions that it may have generated for other reasons are disregarded and canceled. Any exceptions related to the image on the reverse side of the blank page are processed as usual.
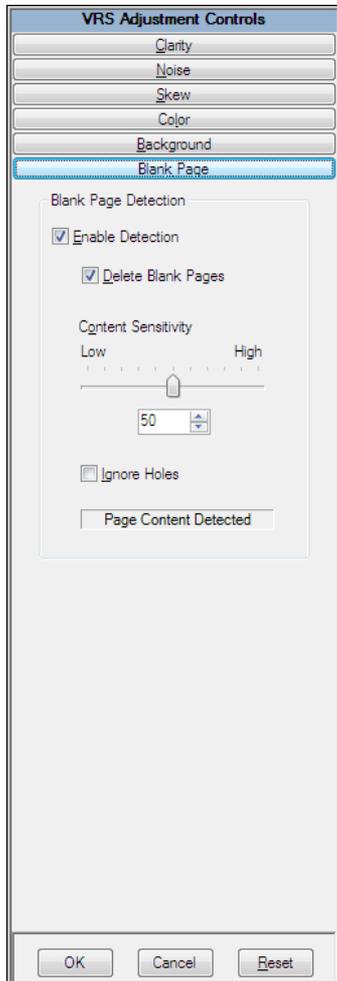
Figure 2-41. Blank Page Panel

▶ **To enable blank page detection**

1   Scan a sample blank document that is similar to the documents that you plan
to scan in a batch, and then select Preview from the VRS taskbar menu.

2   From the VRS Adjustment Controls, select the Blank Page panel.

3   Select the Enable Detection check box to turn on automatic blank page
detection. Select the Delete Blank Pages check box to turn on automatic blank
page deletion.

Note When Blank Page Detection is enabled without deletion, the ability to notify the scanning application is supported only for ImageControls-based applications, rather than ISIS- or TWAIN-based applications.

4 Adjust the Content Sensitivity setting to determine how sensitive VRS is to page content. The possible values range from 1 to 100. A high sensitivity value means that VRS is very sensitive to small amounts of content, even if it is scattered on a page. As a result, such a page would not be considered to be blank. A low sensitivity value means that VRS is less likely to detect small amounts of content on a page. As a result, such a page would be considered blank. You can adjust the Content Sensitivity setting by doing **one** of the following:

■ Move the slider to the left to decrease the likelihood of detecting small amounts of content on a page.
■ Move the slider to the right to increase the likelihood of detecting small amounts of content on a page.
■ Click the arrows in the text box to increase or decrease the Content Sensitivity value.
■ Click in the Content Sensitivity text box and type a value.

The message "Page Content Detected" or "Page Content Not Detected" indicates whether or not VRS considers the preview image to be blank based on the current Content Sensitivity setting. You can adjust the Content Sensitivity setting to locate the threshold at which VRS detects content on a page.

5 Select the Ignore Holes check box if you want hole marks to be disregarded when VRS determines if a page is blank. If the check box is not selected, a page that is blank except for hole marks near the edges may not be considered blank by VRS.

6 Click OK.

Note If a page is removed as a result of blank page deletion, any exceptions that it may have generated for other reasons are disregarded and canceled. Any exceptions related to the image on the reverse side of the blank page are processed as usual.

When You Can Expect to See Blank Page Images in the Viewer

When the blank page deletion feature is in effect, blank pages are automatically deleted and you do not see them in the image viewer. However, when you set the QC

mode to First Page or Every Page, the scanning process stops to display the page that is appropriate for the active mode. If that page happens to be blank, it appears in the image viewing area with a message indicating that it has either been detected or marked for deletion (Figure 2-42). Blank pages may also display in the image viewing area when the QC mode is set to On Errors if an exception occurs in connection with the back side of the blank page. Blank pages that are detected but not marked for deletion are sent to the scanning application.
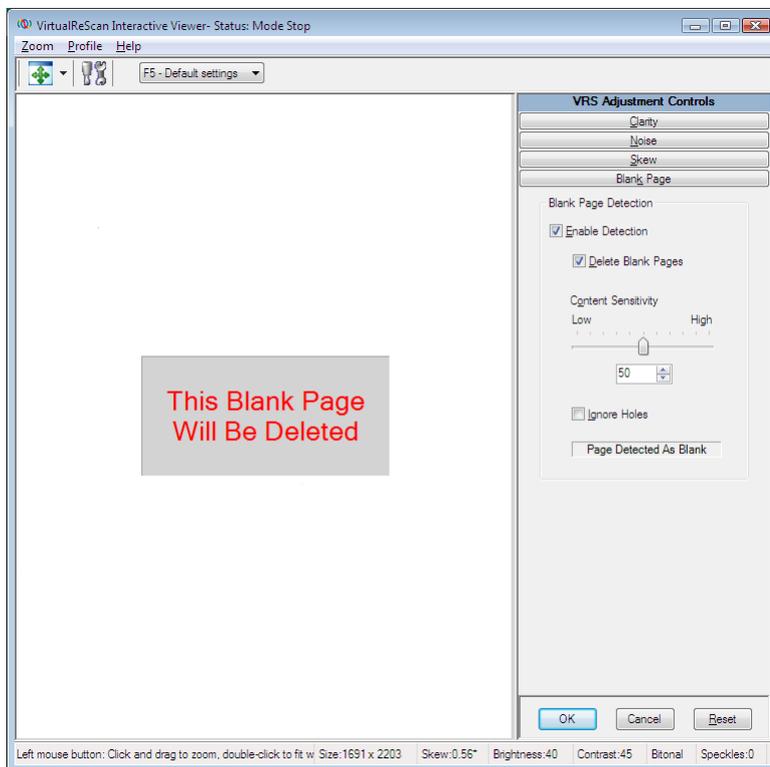
Figure 2-42. Message Indicating that Blank Page will be Deleted

Enabling the Professional Features Demo

The Enable Professional Features Demo command appears on the Tools menu only if you have a VRS Basic license. If you have a VRS Desktop, Workgroup, or Production license, access to VRS Professional features is already included in your installation. You can use the Enable Professional Features Demo command to enable a demonstration of VRS Professional features. While this mode is enabled, you have access to the VRS Professional features and a "Kofax Demo Mode" stamp is placed on any images that you scan.

Once the VRS Professional Features Demonstration is enabled, the VRS Interactive Viewer will be refreshed and options on three additional panels will be available from the VRS Adjustment Controls: Color, Background, and Blank Page.

Note To access the Color or Background panels while the Professional Features Demonstration mode is in effect, you must have color scanning selected from your scanning application.

If you exit the demo, the VRS Adjustment Controls will be refreshed again so that you have access only to the options on the Clarity, Noise, and Skew panels. Access to the options on the Color, Background, and Blank Page panels is discontinued.

▶ **To enable the Professional Features demonstration**

1   Select Tools | Enable Professional Features Demo. A check mark will appear next to the menu item to indicate that the demonstration has been enabled.

2   Review the message confirming that the VRS Professional features demonstration is active, and then click OK.

3   The VRS Interactive Viewer will refresh so that options on three additional panels become available from the VRS Adjustment Controls: Color, Background, and Blank Page.

   Note The options on the Color and Background panels are available if you have color scanning selected from your scanning application.

4   Scan as usual and notice that a "Kofax Demo Mode" stamp is applied to all images.

5   If you are interested in upgrading your license to access the VRS Professional features on a permanent basis, navigate to the Kofax VRS program folder and select Upgrade Now. For details, refer to the VRS online Help.

   Note If you enable the VRS Professional features demonstration, it remains active until you close the scanning application.

▶ **To exit the Professional features demonstration**

1   While the VRS Professional features demonstration is enabled, select Tools | Enable Professional Features Demo. The check mark next to the menu item will be cleared to indicate that the demonstration is no longer in effect.

2   The VRS Adjustment Controls will refresh so that the options on the Color, Background, and Blank Page panels are grayed. Also, if you attempt to select

any of these panels after exiting the Professional features demonstration, a message will display to remind you that full access requires a VRS Professional license. The message will include a link to the Upgrade VRS dialog box, which you can use to purchase a VRS Professional license.

The options on the Clarity, Noise, and Skew panels will continue to be available.

3   When you resume scanning, the "Kofax Demo Mode" stamp will no longer be applied to your images.

Using Advanced Features

From the VRS Interactive Viewer, you can access advanced features if they are supported by your scanner. If your scanner supports advanced features, you can use the Scanner Driver Settings option to access one of the following dialog boxes:

- Advanced Settings dialog box: Consists of options related to page layout, JPEG compression, and other custom features.
- Advanced Properties dialog box: Consists of options that you can use to specify preferences for endorsing, color image processing, picking rectangles, and rotation.

The dialog box that you access by selecting the Scanner Driver Settings option is dependent on the scanner that you have configured to work with VRS. The Scanner Driver Settings option will be available if both of the following conditions are met:

- Your scanner or scanner driver supports advanced features.
- You open the VRS Interactive Viewer in Preview mode.

Note Use the advanced features with caution. Some features may interfere with the optimal performance of VRS.

▶ **To access advanced features from the VRS Interactive Viewer**

1   Scan a sample image.

2   From the VRS taskbar menu, select Preview to open the VRS Interactive Viewer.

3   From the VRS Interactive Viewer, do **one** of the following:
- From the menu, select Tools | Scanner Driver Settings.
- From the toolbar, select the Scanner Driver Settings icon.

> **Note** If the Scanner Driver Settings menu command or toolbar option is not available, your scanner driver does not support advanced features.

4   One of the following dialog boxes will display, according to the scanner that you have configured to work with VRS:

- Advanced Settings dialog box
- Advanced Properties dialog box

> **Note** For details about the Advanced Properties dialog box, refer to *Advanced Properties* on page 113.

Using the Auto Resolve Manager

You can use the Auto Resolve Manager to handle VRS exception conditions such as errors caused by equipment conflicts or paper transport issues. VRS opens the Auto Resolve Manager dialog box for each occurrence of an exception condition specified as an Auto Resolve or Intervention action type on the Errors tab in the VirtualReScan Administration Utility. When Auto Resolve is the selected action, the Auto Resolve Manager opens in automatic mode. When Intervention is the selected action, the Auto Resolve Manager opens in manual mode.
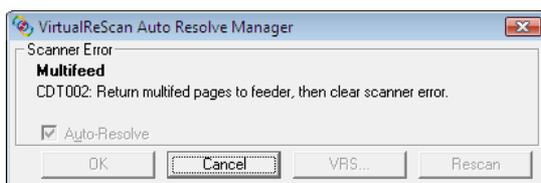
Figure 2-43. VRS Auto Resolve Manager

The Auto Resolve Manager displays text indicating the exception condition and operator instructions for dealing with the condition. The Auto Resolve Manager dialog box may also display the image that triggered the exception, depending on the exception.

The options on the Auto Resolve Manager will vary, according to the active mode (automatic or manual):

- **OK - Automatic Mode:** When the Auto Resolve Manager opens in automatic mode (when the Action selection is Auto Resolve), the OK button is grayed.

VRS automatically will attempt to retry the scanning process, which will resume once you do something to resolve the exception condition.

- **OK - Manual Mode:** When the Auto Resolve Manager opens in manual mode (when the Action selection is Intervention), you need to resolve the equipment or paper transport issue. Then select OK to accept the image "as is," send it to the scanning application, and proceed with the scanning process.
- **Cancel:** Stop the batch or cancel the scanning process. When you select Cancel, any error information is passed to your scanning application. The images that caused the errors are not sent to the scanning application.
- **Rescan (Manual Mode only):** Rescan a sheet after you have reloaded a document into the scanner.

Kofax VRS Program Folder

From the Windows Start menu, you can navigate to the Kofax VRS program folder (Figure 2-44).
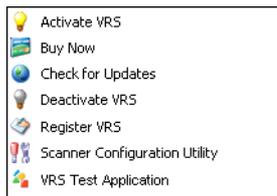
Figure 2-44. VRS Program Folder

The availability of some items in the Kofax VRS program folder may vary, according to the status of your product license.

Activate VRS

Use this command to activate your VRS Professional product license. When you select the Activate VRS command, the Activate VRS dialog box is opened so that you can request a license code. You must activate your VRS Professional license to access the VRS Professional features, and to be eligible for product updates and technical support. For more information, refer to the VRS Help or the *VRS Installation Guide*.

Buy Now

Use this command to purchase a licensed version of VRS if you are currently running the product in evaluation mode. When you select the Buy Now command, the Buy VRS dialog box is displayed so that you can open the Web site that is used to purchase

the licensed product. The Buy Now command is available if you are currently running an evaluation or demonstration version of VRS. For more information, refer to the VRS Help.

Check for Updates

Use this command to check for and download a VRS product update. You can use this feature if you have a VRS Professional license that has been activated. For more information, refer to the VRS Help or the *VRS Installation Guide*.

Deactivate VRS

Use this command to deactivate and remove your VRS product license. If you remove VRS, the product license should be deactivated, unless you plan to reinstall the product later on the same computer. For more information, refer to the VRS Help or the *VRS Installation Guide*.

Register VRS

Use this command to register your VRS Basic product license. When you select the Register VRS command, the Register VRS dialog box is opened so that you can start the registration process. You must register your VRS Basic license to be eligible for technical support. For more information, refer to the VRS Help or the *VRS Installation Guide*.

Upgrade Now

Use this command to upgrade your VRS license. When you select the Upgrade Now command, the Upgrade VRS dialog box is displayed so that you can access the Web site that is used to purchase a license upgrade. The Upgrade Now command is available if you are currently running a licensed version of VRS that is lower than a production license. For more information, refer to the VRS Help.

Scanner Configuration Utility

Use this command to start the Scanner Configuration Utility, which is used to configure scan or file import sources and to set VRS default scanners. For more information, refer to *Scanner Configuration Utility* on page 85.

VRS Test Application

Use this command to start VCDemo, a sample ImageControls-based scanning application that is installed automatically with VRS. For more information, refer to the VCDemo section of the *VRS Installation Guide*.

Scanner Configuration Utility

Introduction

You can use the Kofax Scanner Configuration Utility to create and configure scan and image device sources, and set VRS default scanners. The Scanner Configuration Utility is available from the Kofax VRS program folder.

From your scanning application, you select a scan source to ensure that the appropriate drivers are used during your scanning session. As explained earlier in this guide, a VRS scan source must be selected in order to run VRS with your scanning application.

If you have installed either VRS or an Adrenaline SCSI scanner controller and selected a scanner, several preconfigured scan sources are already available for use with your scanning application. Scan sources are also available if you have installed a VRS Component Installer. Therefore, in most cases, you will not need to use the Scanner Configuration Utility to create a scan source.

You may need to use the utility to create an additional scan source if one of the following situations is applicable to your installation:

- You are using VRS with a "compatible" scanner, which is a scanner that has not gone through the VRS certification process.
- You are using a Kofax Adrenaline SCSI scanner controller (*without* VRS) with a "compatible" scanner, and you want to create a source other than the default source named "<XYZ Scanner> without SVRS."

Using the Scanner Configuration Utility, you can do the following:

- Create and configure scan sources
- Select a scanner and set it as the VRS default scanner
- Restore the VRS default settings for a specific scanner
- Set source properties
- Create and manage import sources

Configuring a Scan Source - Quick Start Method

There are a number of ways to create and configure sources with the Scanner Configuration Utility. For most VRS users, the procedure in this section will provide the easiest approach to configuring a scan source. If you need to configure a custom source for a scanner that is not certified or compatible with VRS, refer to *Configuring a Scan Source - Custom Method* on page 87. If you need additional information, please click Help from the utility.

▶ **To configure a scan source**

1 From the Start menu, navigate to the Kofax VRS program folder and select the Scanner Configuration Utility. The Scanner Configuration Utility dialog box will display (Figure A-1).
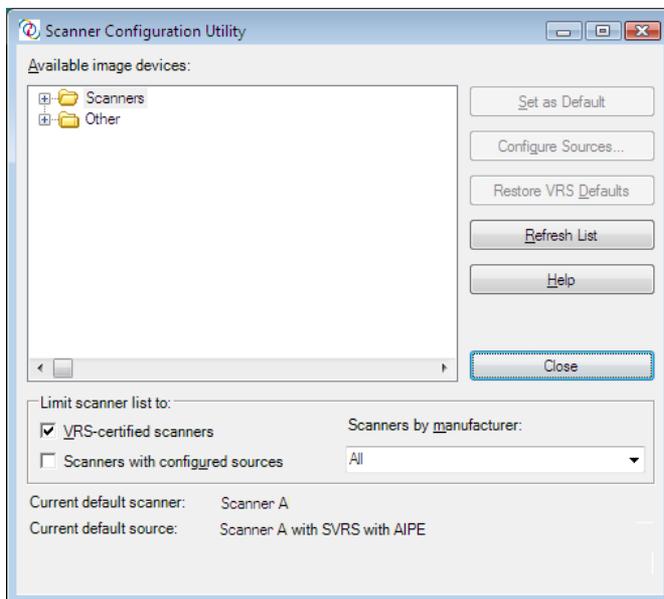
Figure A-1. Scanner Configuration Utility Dialog Box

2 Expand the Scanners node to locate the name of your scanner manufacturer.

3 Expand the manufacturer node to locate and select the name of your scanner model (Figure A-2).
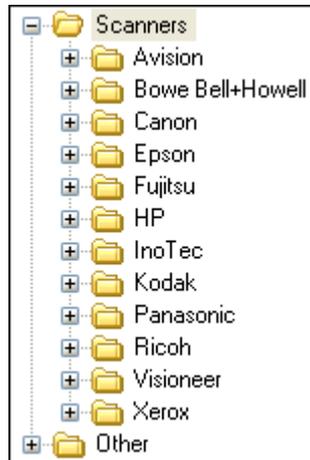
Figure A-2. Scanner Manufacturer List

Note The scanner manufacturer list consists of VRS-certified scanners, as well as any scanner for which a driver has been installed on your computer.

4 Click Set as Default, which accomplishes the following:

- Creates a set of standard sources (if they do not already exist) for the selected scanner
- Sets the selected scanner as the default scanner
- Sets the default source for the default scanner (the selection will be based on the license that is currently in effect)
- Sets default image processing properties that go into effect when the default scanner is in use with your VRS software

5 Notice that the entries for the "Current default scanner" and "Current default source" are updated at the bottom of the Scanner Configuration Utility dialog box.

6 Click Close to exit the utility.

The newly created source(s) will be available from your scanning application.

Configuring a Scan Source - Custom Method

This section explains how to use the Configure Sources dialog box to configure a source for a scanner that is not certified or compatible with VRS. You may need to use this method if you are using a scanning application that requires a custom source with a specific naming convention.

▶ **To configure a custom source for your scanner**

1   Make sure that the necessary scanner driver is installed on your computer.

2   Start the Scanner Configuration Utility.

3   From the "Available Image Devices" list, expand the Scanners node and locate the name of the manufacturer associated with your scanner.

Note   The scanner manufacturer list consists of VRS-certified scanners, as well as any scanner for which a driver has been installed on your computer.

4   Select the name of your scanner model and click Configure Sources. The Configure Sources dialog box will display with the name of the scanner in the title bar (Figure A-3).
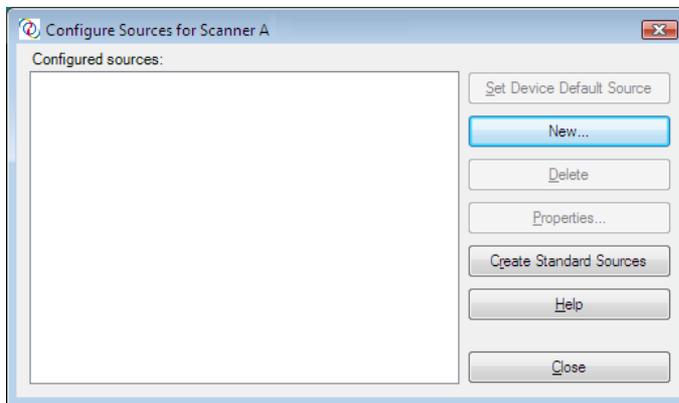
Figure A-3. Configure Sources Dialog Box

5   From the Configure Sources dialog box, click New. The Create Source dialog box will display (Figure A-4).
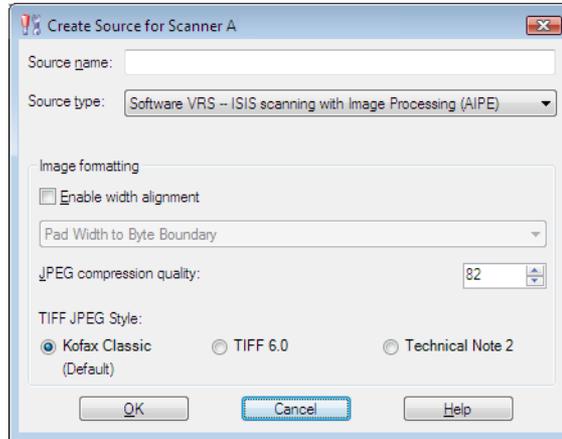
Figure A-4. Create Source Dialog Box

6 Source name: Enter the name that will be used to reference the scanner or source device from your scanning application. You can assign any name, if it fits within the naming conventions of your application. Typically, the source name corresponds to the name of the scanner or source device, along with a description of the source type. An example source name might be "Scanner A with ISIS," where "Scanner A" corresponds to the make and model of the scanner.

7 Source type: Select a source type from the list. The items on the source type list correlate to the type of driver (ISIS, TWAIN, or Kofax) that supports your scanner, as well as the software (VRS, AIPE, etc.) that you will be using with the scanner. For example, if the selected scanner has an ISIS driver associated with it, you will only see the scan sources (including VRS sources) associated with ISIS scanning on the list. Select the type that is appropriate for your installation. For more information, refer to *Standard VRS Source Types* on page 97.

8 For information about the options in the "Image formatting" group, click Help from the dialog box. Usually, it is not necessary to use these settings unless you are instructed to do so by Kofax Technical Support.

9 Click OK to close the Create Source dialog box.

10 The Configure Sources dialog box will be displayed with the new source added to the "Configured sources" list as the default selection. The newly created source will now be available from your scanning application.
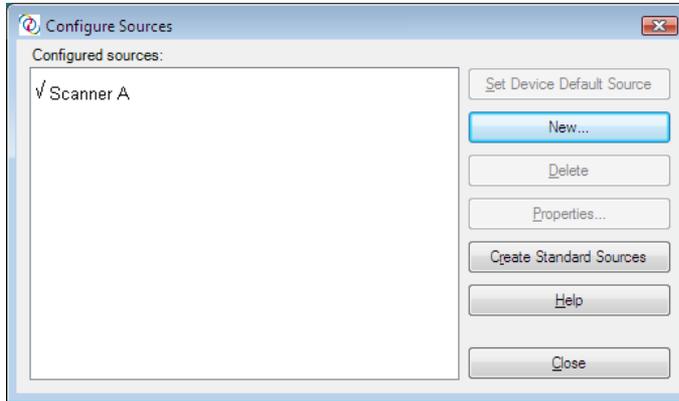
Figure A-5. Scanner Configuration Utility - New Source Added

11 Click Close to exit the Configure Sources dialog box.

Note For more information about other options on this dialog box, refer to *Configure Sources Dialog Box Options* on page 95.

Scanner Configuration Utility Dialog Box Tour

This section gives you an overview of the user interface elements in the Scanner Configuration Utility dialog box.

When starting the Scanner Configuration Utility, you are presented with the "Available image devices" list, which consists of scanners and file import devices. The Scanners list, in alphabetical order, consists of every VRS-certified scanner, along with every scanner for which drivers are installed on your computer. When using the Scanners list, you can use the graphical visual cues to identify key information related to individual scanner models. You can also use filtering options to restrict the number of items that display on the list. For details, refer to *Visual Cues* on page 91 or *Filtering Options for the Scanners List* on page 92.
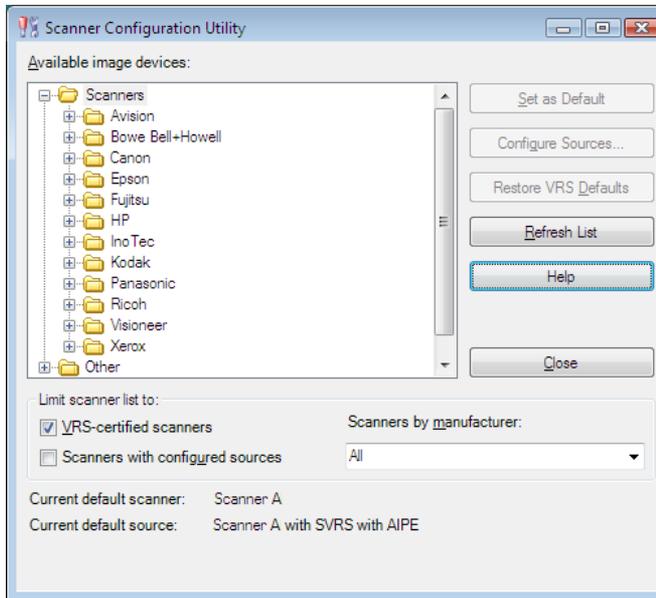
Figure A-6. Scanner Configuration Utility

Visual Cues

The Scanner Configuration Utility includes visual cues that indicate important information about the items on the "Available image devices" list. The following conventions apply to the icons that display on the list:

- VRS icon: denotes scanners that are VRS-certified
- Generic scanner icon: denotes scanners that are not VRS-certified (also called "compatible" scanners)
- Red X: denotes scanners for which drivers are not available on the computer
- Check mark: denotes the currently selected default scanner
- CD: denotes a file import device

Also, as you position the cursor over a scanner name in the list, the tooltip indicates the driver type (ISIS, TWAIN, or Kofax SCSI) that supports the scanner.

The following table explains the significance of each icon that is used in the "Available image devices" list.

Table A-1. Scanner Configuration Utility Icons

Icon	Description
	Scanner is VRS-certified.
	Scanner is VRS-certified, and it is currently selected as the default device.
	Scanner is VRS-certified, but the driver does not exist on the computer.
	Scanner is VRS-certified and currently selected as the default device, but the driver does not exist on the computer.
	Scanner is not VRS-certified.
	Scanner is not VRS-certified, and it is currently selected as the default device.
	Device is used for importing files from disk.

Filtering Options for the Scanners List

You may wish to use one of the following filtering options to restrict the list of scanners that display in the "Available image devices" listing.

- VRS-certified scanners: Select this check box to limit the list to scanners that are VRS-certified. All other scanners will be excluded from the list. When this check box is not selected, the scanner list includes VRS certified scanners, along with scanners for which drivers are installed on your computer.
- Scanners with configured sources: Select this check box to limit the list to scanners for which sources are configured. Scanners without configured sources will be excluded from the list.

As another option, you can specify **one** of the following to indicate your preferences for viewing the list of scanners:

- All: Select this option if you prefer an unrestricted list that includes every scanner manufacturer.
- Manufacturer name: Select this option if you prefer to restrict the list to include scanners from a specific manufacturer. You select the manufacturer name.

Note As you position the cursor over a scanner name in the list, a tooltip will display to indicate the driver type (ISIS, TWAIN, or Kofax SCSI) that supports the scanner.

If desired, you can combine your selection for scanner manufacturer with the other filtering options to restrict the list to suit your preferences. For example, you could restrict the list to display only VRS-certified scanners with configured sources for a specific manufacturer.

Scanner Configuration Utility Dialog Box Options

This section explains the options that you can select from the Scanner Configuration Utility dialog box (Figure A-7).
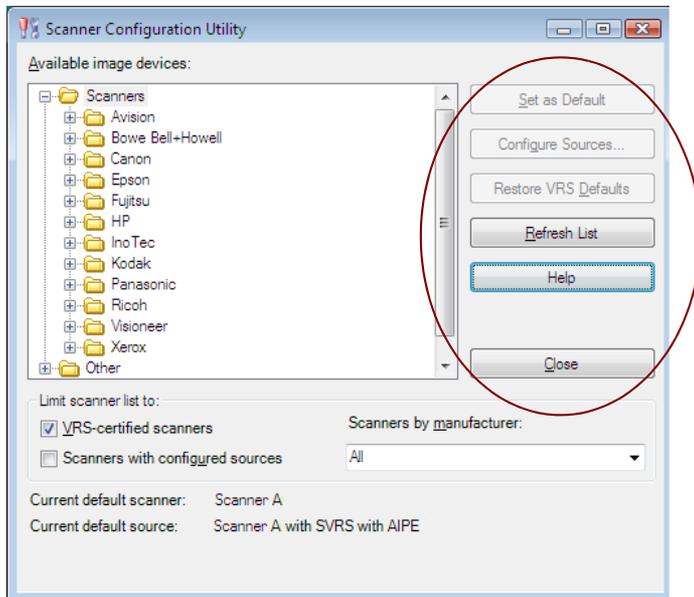
Figure A-7. Scanner Configuration Utility Dialog Box Options

- Set as Default: Use this option to set the currently selected item in the "Available image devices" list as the default device. If the device is a certified or compatible VRS scanner, the appropriate sources are automatically created and configured (if they don't exist already). If the selected item is a file import device, the default source "My Kofax File Import with AIPE" is created. Additionally, the default VRS settings are set and saved to the default profile for the selected scanner.

- Configure Sources: Use this option to open the Configure Sources dialog box, which is used to create, configure, or view the sources for the device that is currently selected in the "Available image devices" list. For more information, refer to *Configuring a Scan Source - Custom Method* on page 87.

- Restore VRS Defaults: Use this option to restore the VRS default settings for the selected scanner and set it as the default VRS source. Before selecting this option, sources must already exist for the specified device. For details, refer to *Restoring VRS Default Settings* on page 98.

- Refresh List: Use this option to update the list of devices. This option is useful if changes affecting the list (such as addition or deletion of drivers) have been made during the current session.

- Help: Use this option to access the online Help topic for the Scanner Configuration Utility dialog box.

- Close: Use this option to exit the Scanner Configuration Utility.

Configure Sources Dialog Box Options

In previous sections, the procedures were described for creating standard VRS sources, as well as custom sources. Regardless of the source type, you can use the Configure Sources dialog box (Figure A-8) to view the list of sources that have been configured for the device that is currently selected in the "Available image devices" list in the Scanner Configuration Utility dialog box.
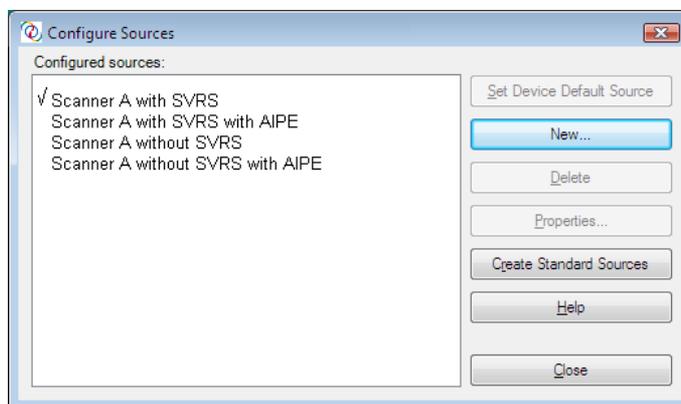
Figure A-8. Configure Sources Dialog Box Options

If your sources were created by selecting the "Set as Default" option on the Scanner Configuration Utility dialog box, you may not need to use the Configure Sources dialog box unless you want to use one of the following options:

- Set Device Default Source: Use this option to specify the source in the "Configured sources" list as the default source for the currently selected device. Each device has its own default source, which may differ from the default source associated with the current default device.
- New: Use this option to open the Create Source dialog box, which is used to add a new source. For instructions, refer to *Configuring a Scan Source - Custom Method* on page 87.
- Delete: Use this option to remove the source that is currently selected in the "Configured sources" list.
- Properties: Use this option to display or update image formatting properties associated with options such as JPEG compression. Typically, it is not necessary to use these settings unless you are instructed to do so by Kofax Technical Support.
- Create Standard Sources: Use this option to create a set of standard VRS sources for the selected device. You can also create a set of standard VRS

sources by selecting the "Set as Default" option from the Scanner Configuration Utility dialog box.

- Help: Use this option to access the online Help topic for the Configure Sources dialog box.
- Close: Use this option to exit the Configure Sources dialog box.

Restoring VRS Default Settings

The VRS default settings have been carefully chosen to ensure that VRS excels with a wide range of documents and scanners without requiring adjustments. A unique set of VRS property settings is available for each VRS-certified scanner, and they go into effect when that scanner is in use. In the day-to-day use of VRS, the default settings may inadvertently be altered. From the Scanner Configuration Utility, you can use the Restore VRS Defaults function to restore the VRS original default settings for the selected device and also set it as the default scanner source.

In earlier versions of VRS, the Restore Default Values (RDV) utility was used to reset VRS default values. The RDV utility has been discontinued and replaced with the "Restore Default Values" function in the Scanner Configuration Utility.

If you have a copy of the RDV utility from an earlier release, the utility will automatically be removed when you install Kofax Capture 8.0 or VRS 4.2.

▶ **To restore VRS default settings**

1. From the Scanner Configuration Utility dialog box, use the "Available image devices" list to locate the scanner that you have configured for use with VRS.

2. Select your scanner from the list.

3. Click Restore VRS Defaults.

   Note The Restore VRS Defaults function is not available unless sources have been configured for the selected scanner.

   Notice that the "Current default scanner" and "Current default source" entries will be updated at the bottom of the Scanner Configuration Utility dialog box.

4. Click Close to exit the Scanner Configuration Utility.

   When you start VRS, you will notice that the panels in the VRS Adjustment Controls will be updated with the original default settings.

Standard VRS Source Types

This section lists the standard VRS source types and source naming conventions, which are based on the type of device (scanner or file import) that is used in your installation.

The source types listed here are available for certified and compatible VRS scanners. The scanner source types depend on the drivers (ISIS, TWAIN, or Kofax) that are required to support a particular scanner. Other factors include support for AIPE (Adrenaline Image Processing Engine) and HVRS (Hardware VirtualReScan) in a high-volume production scanning environment.

Table A-2. ISIS Source Types

Source Type	Source Naming Convention
Software VRS - ISIS scanning with image processing (AIPE)	<ScannerName> with SVRS with AIPE
Software VRS - ISIS scanning	<ScannerName> with SVRS
ISIS scanning with image processing (AIPE)	<ScannerName> without SVRS with AIPE
ISIS scanning	<ScannerName> without SVRS

Table A-3. TWAIN Source Types

Source Type	Source Naming Convention
Software VRS - TWAIN scanning with image processing (AIPE)	<ScannerName> with SVRS with AIPE
Software VRS - TWAIN scanning	<ScannerName> with SVRS
TWAIN scanning with image processing (AIPE)	<ScannerName> without SVRS with AIPE
TWAIN scanning	<ScannerName> without SVRS

Table A-4. HVRS SCSI Source Types

Source Type	Source Naming Convention
Hardware VRS - SCSI scanning with image processing (AIPE)	\<ScannerName\> with SVRS with AIPE
Hardware VRS - SCSI scanning	\<ScannerName\> with SVRS

Table A-5. HVRS TWAIN Source Types

Source Type	Source Naming Convention
Hardware VRS - TWAIN scanning with image processing (AIPE)	\<ScannerName\> with SVRS with AIPE
Hardware VRS - TWAIN scanning	\<ScannerName\> with SVRS

Table A-6. File Import Source Types

Source Type	Source Naming Convention
Kofax Software - Import from disk with image processing	My Kofax File Import with AIPE
Kofax Software - Import from disk without image processing	My Kofax File Import without AIPE

Restoring VRS Default Settings

The VRS default settings have been carefully chosen to ensure that VRS excels with a wide range of documents without requiring adjustments. In the day-to-day use of VRS, the default settings may inadvertently be altered. From the Scanner Configuration Utility, you can use the Restore VRS Defaults function to restore the VRS default settings for the selected device and set it as the default VRS scan source.

▶ **To restore VRS default settings**

1   From the Scanner Configuration Utility dialog box, use the "Available image devices" list to locate the scanner that you have configured for use with VRS.

2   Select your scanner from the list.

3 Click Restore VRS Defaults.

> **Note** The Restore VRS Defaults function is not available unless sources have been configured for the selected scanner.

Notice that the "Current default scanner" and "Current default source" entries will be updated at the bottom of the dialog box. When you start VRS, you will notice also that the panels in the VRS Adjustment Controls will be updated with the original default settings.

4 Click Close to exit the Scanner Configuration Utility.

Appendix A

Long Paper Support

Introduction

VRS supports long paper scanning for some production-class scanners. You can use the instructions in this appendix to configure VRS for long paper support.

Activating Long Paper Support

Using VRS, you can scan duplex long documents in black and white mode at 300 DPI and below. With long paper support activated, images may not be rotated.

▶ **To scan long paper in VRS**

1 Start your scanning application (VCDemo is used in this example) and select Source | Properties.

2 From the Scanner Properties dialog box, select Continuous Sheet.
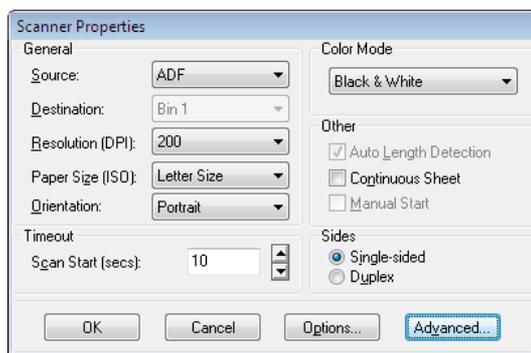
Figure B-1. Scanner Properties Dialog Box

3 Click OK.

You may now scan long documents.

Enhanced Bar Code Engine

Introduction

Access to the Kofax Standard bar code recognition engine is provided through your scanning application. Access to the Enhanced Bar Code features is available if you have activated a VRS Professional Workgroup or VRS Professional Production license, or if you have installed an Adrenaline 650i adapter.

Note The Enhanced Bar Code engine may also be licensed through the Kofax Capture licensing scheme. For more information, refer to the Kofax Capture documentation.

This appendix gives information on the bar code types supported, the differences between the Standard Bar Code engine and the Enhanced Bar Code engine, and instructions on how to switch between the two. Refer to *Using the Bar Code Properties Dialog Box* on page 106 for more information.

Standard vs. Enhanced Bar Code

With the Adrenaline Image Processing Engine, the ability to capture and read bar codes has been expanded through the application of color technology. Because color images provide more information to assist in bar code interpretation, the enhanced bar code reader is able to achieve more accurate readings of all supported bar code types at low dpi levels and varying levels of quality. The enhanced bar code also has the ability to work with grayscale images in addition to having improved bitonal recognition capability. Another significant advancement is the support of two-dimensional (2D) bar codes.

If you are not familiar with this dialog box, refer to *Using the Bar Code Properties Dialog Box* on page 106.
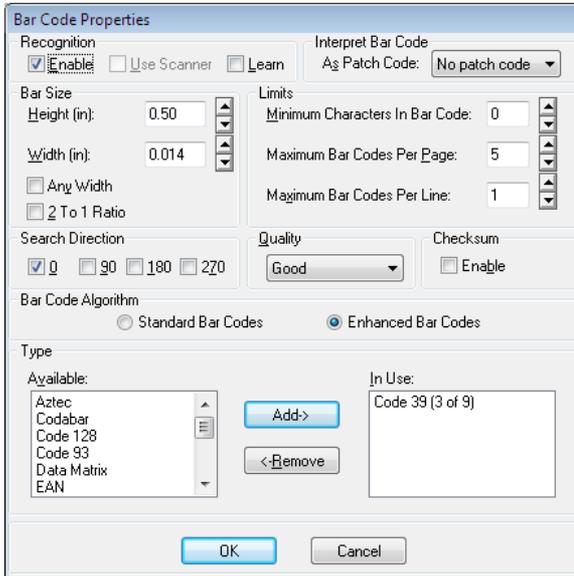
Figure C-1. Bar Code Properties Dialog Box

With the Enhanced Bar Code engine, you will be able to scan all the standard bar code types with improved recognition, in addition to the 2D bar codes. The Enhanced Bar Code engine supports the following bar codes:

- Aztec
- Codabar
- Code 128
- Code 39 (3 of 9)
- Code 93
- DataMatrix
- EAN
- Interleaved 2 of 5
- Maxi Code
- PDF 417
- Postnet
- QR
- UPC-A
- UPC-E

Standard bar codes include the following:

- Codabar
- Code 128
- Code 39 (3 of 9)
- Code 93
- EAN
- Interleaved 2 of 5
- Linear 2 of 5
- Postnet
- UPC-A
- UPC-E

How to Switch Between Bar Code Engines

While the Kofax Enhanced Bar Code recognition engine offers many advantages over the standard bar code recognition engines, in some cases the processing speed may vary. For those who wish to focus on processing speed rather than quality of recognition, the Standard Bar Code algorithm may be preferable. Both algorithms are available for selection at any time without restarting the scanning application.

▶ **To switch the active bar code engine**

1   From the Bar Code Properties dialog box, select the Bar Code Algorithm group.

2   Select **one** of the following:
- Standard Bar Codes
- Enhanced Bar Codes

The corresponding bar code types will immediately become available.

3   Select the desired bar code type and click Add to move it from the Available list to the In Use list. Hold down the Control key to select multiple bar codes at once.

4   Click OK**.**

Note The 2D bar codes are not supported when you switch to the Standard Bar Codes algorithm.

Accessing the Bar Code Properties Dialog Box

How you access the Bar Code Properties dialog box varies according to your scanning application. From the VCDemo demonstration application, you can select the Bar Code Properties dialog box from the Imaging menu to enable your scanning application to automatically recognize certain bar codes during scanning.

Note VCDemo is available from the Kofax VRS program folder.

From the Bar Code Properties dialog box, you can customize how bar codes are handled. When a potential bar code is found, your application examines the bar code and determines if it meets the requirements you have selected. If so, it is decoded and bar code data is returned to your scanning application. This bar code data can then be used, for example, in indexing and workflow operations, or for tracking inventory.

Using the Bar Code Properties Dialog Box

This section describes the options on the Bar Code Properties dialog box.

Recognition Group

The Recognition group of the Bar Code Properties dialog box gives you the ability to enable bar code recognition, to select scanner-specific bar code recognition (if available), and to implement the bar code "Learn" feature.

Enable

Select the Enable check box to enable bar code recognition. Clear the check box to disable bar code recognition.

Use Scanner

The Use Scanner option is reserved for scanners that have bar code recognition ability.

Learn

The bar code Learn feature automatically ascertains the most appropriate values associated with bar codes on an image. It uses the selected bar code type(s) and search

direction(s) to detect bar codes on the current image, and updates the following values:

- Height
- Width
- Ratio
- Quality

For best results, bar codes should be "learned" using the same scanner and scanner settings that will be used to process images. In addition, you must know the type of bar codes you are using for the Learn feature to work properly.

Note The Learn feature does not work with Postnet bar codes. In addition, the Learn mode operates on one bar code at a time. You cannot "learn" multiple bar codes or mixed bar code types with a single Learn operation.

Interpret Bar Code Group

Using the Interpret Bar Code option, you may translate bar codes as patch code. Choose a patch code from the list, or select No Patch Code to disable this feature.

- Patch I
- Patch II
- Patch III
- Patch IV
- Patch T
- Patch VI

Bar Size Group

Under Bar Size, you can type or select the Height and Width of the bar size.

Height

The height of a bar code is the distance between the top of the bars and the bottom of the bars. The minimum height is .015 inch and the maximum is 1.25 inches. You can type or select the bar code height from the list.

Width

The bar width, the physical thickness of the narrowest element in a bar code, ranges from 0.010 to 0.050 inches. Type or select the width from the list.

Any Width

When the bar width is unknown, select this check box to allow the application to automatically determine the bar width as it searches for potential bar codes.

2 to 1 Ratio

Some bar code types support an optional ratio between the narrowest element and the larger elements in the code. In a 2 to 1 ratio, the width of the largest elements is two times larger than the narrowest element. For example, if the width of the narrowest element is .20 inches, the width of the largest elements will be .40 inches.

Note The ratio setting only has meaning for Codabar, Code 39, Code 93, Interleaved 2 of 5, and Linear 2 of 5.

Search Direction Group

The application searches for bar codes in a linear fashion, examining the search area for potential bar codes. With vertical bar codes, for example, it works across the image starting on the top edge and searches top to bottom. Bar codes can be oriented on an image in four general directions. You can select the 0, 90, 180, or 270 check box for the direction you would like to search.

Table C-1. Search Direction Options

Orientation	Direction on the Image
0	Rotated 0 degrees, reads in all directions
90	Vertical, rotated 90 degrees, reads top to bottom
180	Horizontal, rotated 180 degrees to the right, reads right to left
270	Vertical, rotated 270 degrees to the right, reads bottom to top

Quality Group

The bar code Quality refers to the condition of bar code elements on an image. For example, sometimes the bar code elements are well defined; the black bars are clearly delineated, and very little noise exists on the image. In some cases, the black bars are too light, or noise exists in the bar code's quiet zone. Because these factors can affect

the application's ability to accurately read the bar code, you can specify the quality of the bar codes being read.

- **Good**—Well delineated, have smooth edges, and are noise-free.
- **Normal**—Generally well delineated, but may have some noise and rough edges.
- **Poor**—Have jagged edges or other characteristics that might make them hard to read.

Note For optimal results, the default setting of "Good" should be selected.

Checksum Group

Note Checksum verification only has meaning for Code 39, Interleaved 2 of 5, and Linear 2 of 5 bar code types. It is ignored for all other bar code types.

Usually the last character in the bar code, the checksum character helps to ensure that the bar code is valid. Selecting the Enable check box in the Checksum group allows the application to perform checksum verification.

Patch Code Recognition

Introduction

Patch codes can be used to separate documents, stop the scanner, or change the scanner mode. The patch code itself is a pattern of horizontal black bars resembling a bar code the size of a full page. VRS supports patch code recognition in ImageControls applications with a VRS Workgroup license or a VRS Production license. In addition, any configuration that includes an Adrenaline 650i scanner controller will support patch code recognition in ImageControls applications.

The Patch Code Properties dialog box (Figure D-1) can be used to enable, disable, or specify the location of a patch code. In VCDemo, the Patch Code dialog box is accessed via the Imaging menu. Other patch code options are set from the Units option on the File menu in VCDemo.

Note When using VRS with a certified scanner, the options will be grayed in the "Stop On Patch Code" group (Figure D-1).
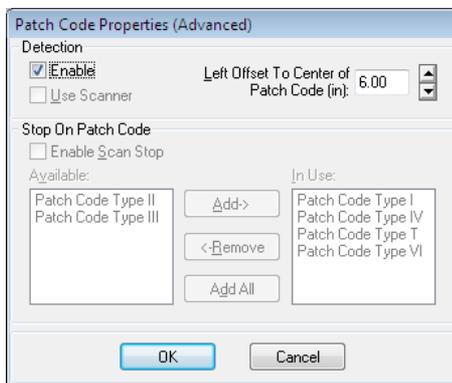
Figure D-1. Patch Code Properties (Advanced) Dialog Box

Using the Patch Code Properties Dialog Box

Use the following options to enable patch code detection.

Enable

Select the Enable check box to take advantage of the patch code detection feature.

Left Offset to Center of Patch Code

The Left Offset to Center of Patch Code is a value you select from the left edge of the page to define a point near the center of the patch code. The offset value allows the patch code detection feature to quickly locate the patch code on the page. This offset can be any value in inches between 0 and the maximum page width. A value of 0 specifies searching anywhere in the horizontal direction for a patch code.

All patch codes are made up of narrow and wide bars as follows:

- The narrow bars must be 0.08 inch in height.
- The wide bars must be 0.20 inch in height.
- The entire patch code must be 0.80 inch in height.
- The entire patch code should be at least 2.0 inches in width.

To be detected, patch codes must be positioned correctly on the page:

- The patch code must be horizontal.
- It must be located at least 0.20 inches from the leading edge of the image.
- It must not extend beyond 3.75 inches from the leading edge of the image.

In compliance with the patch code specification for duplex scanning operations, patch codes are only detected on the front side of a page. Patch codes on the back side of a page are ignored.

Note As an alternative to using patch codes, you can specify that a bar code be interpreted as a patch code, as well as a bar code. This might be useful, for example, if there is always a bar code on the first page of each document. The Bar Code Properties dialog box is used to configure bar codes for use as patch codes. For more information, refer to *Using the Bar Code Properties Dialog Box* on page 106.

Advanced Properties

Introduction

This appendix gives you information about the Advanced Properties dialog box, which can be accessed by selecting the Scanner Driver Settings option from the Tools menu while the VRS Interactive Viewer is in Preview mode.

Note The availability and appearance of the Advanced Properties dialog box are dependent on the scanner that you configure to use with VRS.
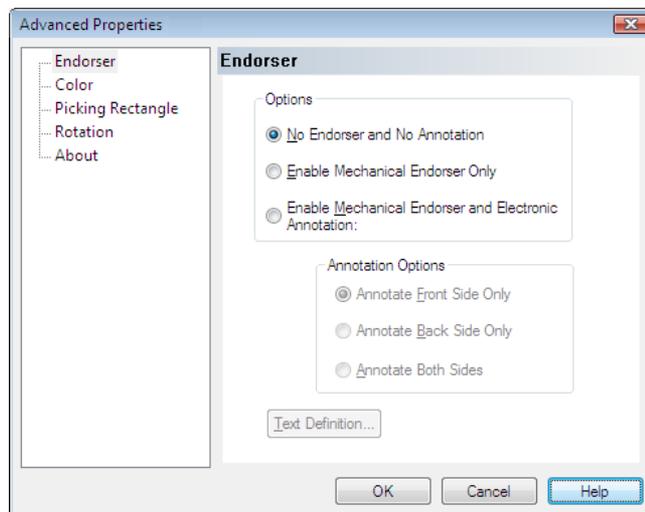
Figure E-1. Advanced Properties Dialog Box

When an image is processed, some settings from the VRS Adjustment Controls take precedence over the settings on the Advanced Properties dialog box. Image processing tasks will occur in this order:

1   Deskew settings from the Skew panel (if enabled)

    2   Auto Crop settings from the Skew panel (if enabled)

    3   Settings from the Advanced Properties Picking Rectangle panel

    4   Settings from the Advanced Properties Rotation panel

Endorser Panel

VRS supports basic endorsing and annotation. For VRS production-class scanners that are equipped with endorsers, you can set up endorsing properties using the Endorser panel on the Advanced Properties dialog box. Through the Endorser panel, you will be able to build a text string from a text prefix and numeric counter value, and then use the string to endorse and/or annotate pages and images. Once added to the page or image, however, endorser and annotation strings are permanent.

The Endorser panel consists of two groups: the Options group and the Annotation Options group. In the Options group, you can select from the following options:

- Endorsing Off, Annotation Off (default setting)
- Endorsing On, Annotation Off (mechanical endorsing only)
- Endorsing On, Annotation On (mechanical endorsing with electronic annotation)

When No Endorser and No Annotation are selected, no string is created on either the scanned page or on the resulting image. Selecting Enable Mechanical Endorser Only means that the endorsing string is physically printed on the scanned page, but is not placed on the image. By selecting Enable Mechanical Endorser and Electronic Annotation, you are choosing to have the endorsing string appear both on the document being scanned as well as on the resulting image.

When the Enable Mechanical Endorser and Electronic Annotation option is selected, the options in the Annotation Options group become available. Annotation can be performed on the document front, document back, and on both sides of a document, but the default setting is to annotate the front side only.

Also available on the Advanced Properties dialog box is a Text Definition option, which you can use to set and/or modify the contents of the endorser string. The Text Definition button is disabled unless endorsing and/or annotation is selected.

Text Definition Dialog Box

When the options for either Enable Mechanical Endorser Only or Enable Mechanical Endorser and Electronic Annotation are enabled, selecting the Text Definition button from the Advanced Properties dialog box launches the Text Definition dialog box. Use this dialog box to customize the endorser and/or annotation string. You can use the Text Definition dialog box to specify endorsing string settings, such as:

- Prefix (selection of text and date format)
- Location of the string relative to the top and left of the page
- Number of digits in the page counter
- Start number for the page counter
- Step Value (increment or decrement values) for the page counter
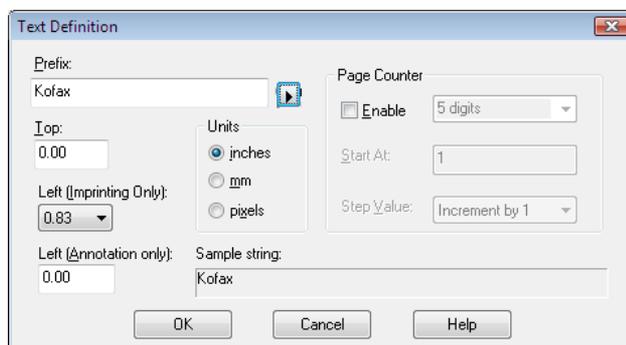
Figure E-2. Text Definition Dialog Box

Prefix

The Prefix is an optional sequence of characters that you can set to precede the rest of your imprinting string. Typically, the prefix consists of a text string and a date. If no prefix is manually entered into the Prefix box, an empty string will be returned. When creating a text string, you need to limit it to the characters in Table E-1.

Table E-1. Acceptable Prefix Text String Characters

space
0-9
% - _/\ #.][()=+< > &
A-Z
a-z

You can manually enter the text string or date to be used during annotation, or you can select from the Prefix drop-down list to insert pre-formatted date information into the prefix string. The date format choices are shown in Table E-2.

Table E-2. Date Formats

Date Format	Example	Date Format	Example
YYYY-MM-DD	2010-07-07	MM.DD.YYYY	07.07.2010
DD-MMM-YY	07-JUL-10	MMM. DD, YY	JUL.07, 10
DD MMM YYYY	07 JUL 2010	YYYY	2010
MMM/DD/YYYY	JUL/07/2010	YY	10
MMM/DD/YY	JUL/07/10	MMM	JUL
MM/DD/YYYY	07/07/2010	MM	07
MM/DD/YY	07/07/10	DD	07
MMM DD, YYYY	JUL 07, 2010	YYDDD (ordinal)	10188

Note Once set, the contents of the prefix are identical for every endorsing and annotation occurrence for a batch. The counter, if enabled, will always be printed following the prefix (base) string. The number of allowable characters varies by scanner. Exceeding the maximum string length will result in the string being truncated to the maximum length, along with an audible alert. Because the endorser/ annotation string is made up of a text prefix and a counter, consider their combined length when setting the string length.

Directly below the Prefix box are the Top and Left text boxes, which you can use to specify the vertical and horizontal position of the annotation text string. You can use the options in the Units group to specify text positioning values in inches, millimeters, or pixels (DPI dependent). The default unit of measurement is inches.

In the Top text box, you may specify the distance of the endorsing and annotation string from the top of each page. The default and minimum value is zero, but the maximum value is dependent on the paper size. Whole numbers are required when entering pixels and millimeters, but when values are specified in inches, they can be entered in .01-inch increments.

In the Left box, the distance of an annotation string from the left edge of a page can be specified. The default and minimum value is zero, but the endorsing string is never

printed less than 20 mm from the top of the page. The maximum is dependent on paper size. Whole numbers are required when entering pixels and millimeters. When values are in inches, however, they can be entered in .01-inch increments. The Left edit box is disabled (grayed out) unless annotation is selected.

Note Not all scanners allow you to select a top and/or left position for your endorser string. Refer to your scanner documentation for more information.

On the right side of the Text Definition dialog box is the Page Counter group, which is used to enable the page counter, specify a starting number for your automatic endorser/annotation counter, set the number of digits to use, and determine the amount by which the counter will be incremented.

Enable

Select the Enable check box to activate the Page Counter feature. When the Enable check box is clear, all other elements in the Page Counter group are disabled.

Digits

The page counter length can be specified via a drop-down list (which is available only when the Enable check box is selected). The available values depend on the scanner as well as on the installed endorsing hardware. The list contains only the available values for page counter length. Select None if you do not wish to increment the counter.

Start At

The starting page counter value is set to 1 initially, but it may be reset using the Start At text box. When you start a new batch, the Page Counter Starting Value is the next number in the sequence based on the final page counter value from the previous batch. Again, you are free to enter a new value into the Start At text box instead.

Step Value

Select from the Step Value drop-down list to determine how the automatic endorser/ annotation counter is incremented on every page. The counter should be set based on

the documents being scanned, how the batches are organized, and specific user needs. The following Step Values are available from the drop-down list.

- Increment by one (default)
- Increment by two
- Decrement by one
- Decrement by two

Note Decrementing is not available with all scanners.

Other Elements on This Dialog Box

The text displayed under Sample String shows how the current imprinting text will look with any optional date stamp or counter expanded. The current date is used.

Color Panel

VRS supports optional color features for some scanners through the Color panel on the Advanced Properties dialog box. You can use the Color panel to set up color-related features such as Color Dropout and JPEG Compression. The Color panel consists of three groups: Front Side Dropout Color, Back Side Dropout Color, and JPEG Compression.
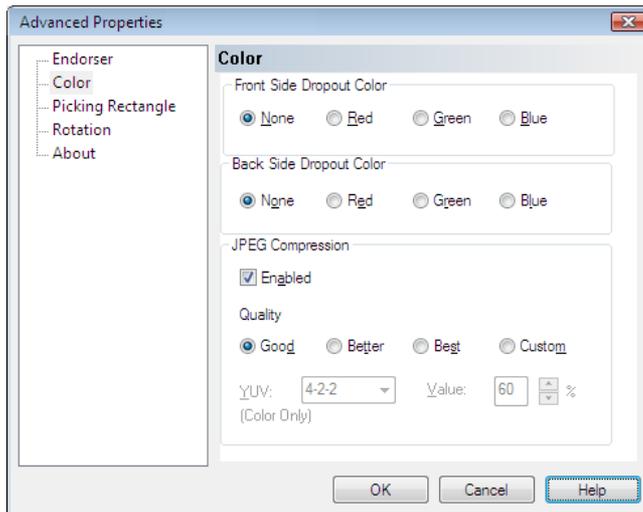
Figure E-3. Advanced Properties Dialog Box – Color Panel

In some cases, you may want to remove all instances of one color, such as the background color, on a document in order to make the necessary data more accessible to OCR engines, etc. One method to effectively "erase" this unwanted color during scanning is to use color dropout. If you select a color to "drop out," your scanner will ignore that color, but capture everything else.

The Front Side Dropout Color and Back Side Dropout Color groups provide the following dropout color choices: None, Red, Green, or Blue. The default is None. If a scanner supports duplex, you can select different dropout colors for the front and for the back side.

Note The back side options for color dropout are disabled for some scanners that support single-sided scanning only.

JPEG (Joint Photographic Expert Group) is a standardized image format designed to compress color and grayscale images. In the JPEG Compression group of the Color panel, you can activate JPEG compression via the Enabled check box. When the Enabled check box is selected, you may then select an image quality level of Good (65), Better (80), Best (95), or Custom.

When the Custom image quality level option is selected, both a YUV value and a Custom JPEG Compression Value may be set. The Custom value has a range of 1 to 100, with a default of 65. As a very general example, setting the JPEG Compression Value at 100 would probably compress the image so lightly that it would be near its original size; a JPEG Compression Value of 10, however, could result in major data loss.

You may type a custom quality JPEG Compression Value into the text box provided, or use the up and down arrows to select a value. Because results from the Custom JPEG Compression value cannot be predicted with certainty, use this setting with caution. The key is to achieve an agreeable balance between better performance (through optimum compression) and quality of the images. Avoid compression that speeds up scanning yet loses necessary data.

YUV, a color-encoding scheme involving luminance (frame and field brightness or "Y") and chrominance (color information or "UV"), may be selected if desired from the drop-down list. The choices for YUV may vary by scanner. When the JPEG Compression Enabled check box is clear, the Quality, YUV, and quality Value choices are disabled.

Picking Rectangle Panel

You can use the Picking Rectangle panel to select a portion of an image to be scanned or processed, effectively cropping out unwanted data. This feature is only available for certain scanners.

The Picking Rectangle panel consists of two groups of settings: Front Side and Back Side. If a scanner supports duplex scanning, you may select picking rectangle settings for the front or the back side, or both. For simplex scanners, only the Front Side settings will be available: the Back Side options will be dimmed.
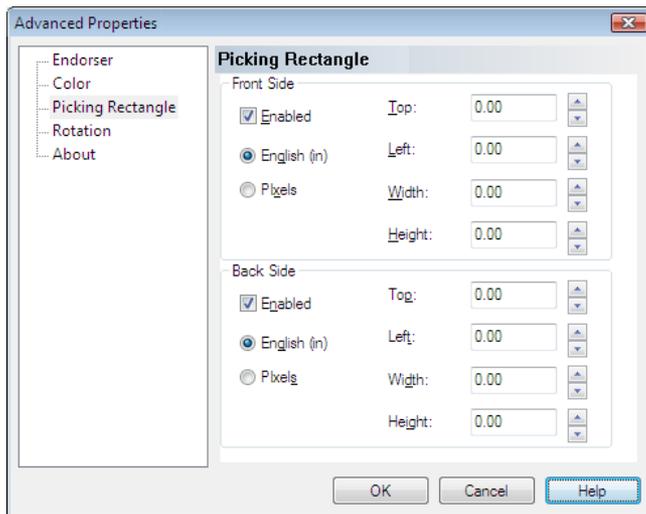
Figure E-4. Advanced Properties Dialog Box – Picking Rectangle Panel

You can use the Picking Rectangle panel to enable and set the following:

- Unit of measurement to be used via the English or Pixels options.
- Placement of the picking rectangle on the document—more specifically, the distance from the top and left (offset) of the document edge using the up and down arrows or by entering the distance into the Top and Left text boxes.
- Width and Height of the picking rectangle using the up and down arrows or by entering the picking rectangle dimensions into the appropriate text boxes.

Rotation Panel

The Rotation panel consists of options for front side and back side rotation. When a scanner supports duplex scanning, the front side and/or the back side of a scanned image can be rotated by 90, 180, or 270 degrees. Selecting 0 means no rotation. On simplex scanners, only front side rotation is enabled.
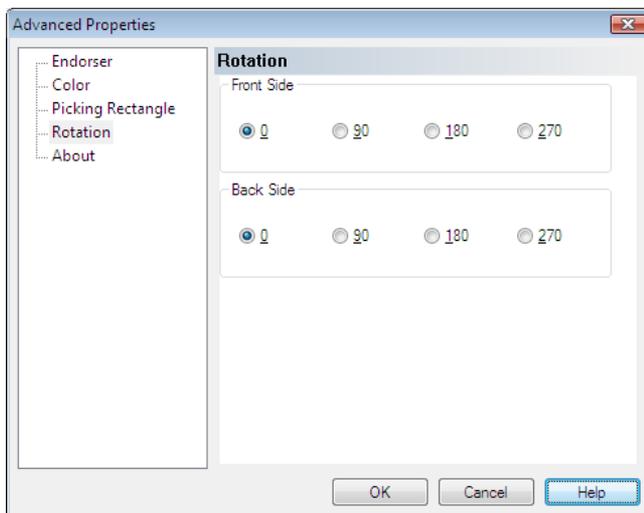
Figure E-5. Advanced Properties Dialog Box – Rotation panel

When an image is displayed in the VRS Interactive Viewer, the image displays at the rotation angle plus the angle set on the Skew panel. Furthermore, any rotation in ImageControls-based applications is independent of (and performed after) the rotation set from the Rotation panel. Rotation panel settings apply after deskew, crop, and settings from the Picking Rectangle panel. In other words, image-processing tasks will occur in this order:

- VRS deskew (if enabled)
- VRS crop (if enabled)
- Settings from Picking Rectangle panel on the Advanced Properties dialog box
- Settings from Rotation panel on the Advanced Properties dialog box

Note The rotation options on this panel may conflict with the VRS content-based rotation feature, which is enabled by selecting the Auto Orientation check box from the VRS Skew panel. For best results, do not select the Rotation panel options and the Auto Orientation option at the same time.

About Panel

The Advanced Properties About panel provides information that is useful for technical support purposes. In addition to listing the scanner firmware version and the Enhanced Grayscale Adapter (EGSA) firmware version, the About panel also indicates if a scanner endorser is installed and if the endorser is a 16-bit or 24-bit endorser (if applicable).
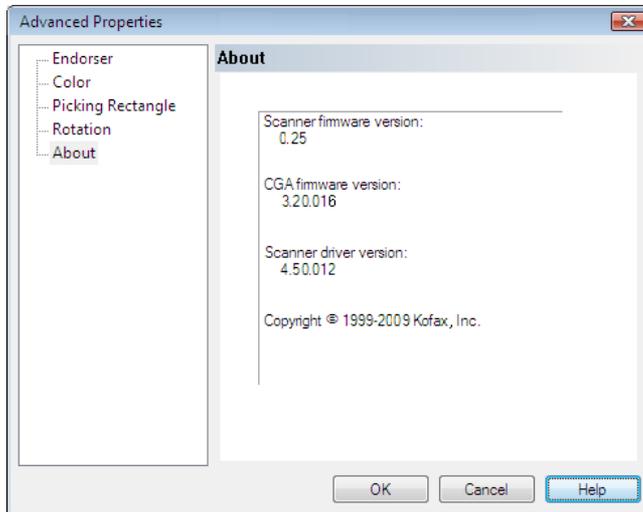
Figure E-6. Advanced Properties Dialog Box – About Panel

Index