Software VRS®
User's Manual

10300313-000
Revision A

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An attempt has been made to state all allowable values where applicable throughout this document. Any values or parameters used beyond those stated may have unpredictable results.

10300313-000
Revision A

Contents

Introduction

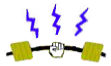
This manual gives you instructions for installing and using Software VRS 2.1.

Note: Please see the *SVRS 2.1 Release Notes* for additional installation information.

Product Overview

Software VRS is an extremely effective and versatile imaging tool that is easy to use for beginners and experts alike. Although it is software, Software VRS acts like a driver to your scan application. Software VRS can be used in three different ways:

1. **Default Settings**—Once installed, Software VRS allows you to scan documents and accurately capture data in the shortest time possible using the default settings. These default settings have been carefully chosen to allow Software VRS to excel at a wide range of documents without adjustments.
2. **Automatic Image Enhancement**—Software VRS also monitors images, detecting poor image quality and performing automatic image enhancements that greatly reduce image quality and recognition errors.
3. **Manual Image Enhancement**—For those rare exceptions in which you want the ability to modify an image manually, Software VRS provides an interactive settings control that eliminates the guesswork with easy, real-time image correction. We call these kinds of tasks "Power Users" tasks, and they will be marked with a Power Users symbol as shown below.



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

Note Software VRS is equipped with context-sensitive help. By pressing F1, the user can access screen-specific information to assist in performing crucial tasks, without leaving the application. The online help can also be browsed for information.

New Features

Software VRS 2.1 includes several new robust features:

- Windows XP Support
- New SVRS Certified Scanners
- New Certified Scan Applications
- Japanese Localization (including ***SVRS User's Manual*** translation)
- Support for Japanese Paper Sizes
- Certification of Adaptec 1480 PCMCIA (Slim) SCSI

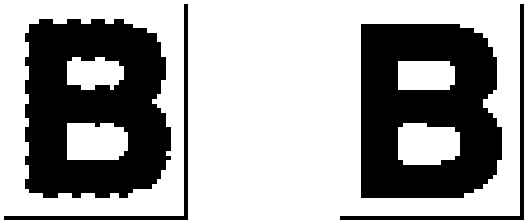
Standard Features

As stated previously, Software VRS is designed to ensure that every scanned image meets your quality standards. While our hardware VRS products are designed to make high-volume scanning easier and more cost-effective, Software VRS provides the same advantages for low-volume scanners (max. 40 ipm).

Other features include the ability to scan batches that consist of multiple document sizes or varying degrees of quality, as well as the ability to automatically assign brightness settings that are optimal for your document type. It is no longer necessary to pre-sort mixed batches. During image optimization, Software VRS also suppresses any background or noise resulting in smaller image file sizes. Software VRS detects paper jams and equipment conflicts. In addition to the time savings, post-processing accuracy is increased and storage requirements are reduced.

For batch scans in which Optical Character Recognition (OCR) precision is crucial, low-contrast documents traditionally pose significant problems. With Software VRS, you can enable "Auto-Brightness," and by selecting a high contrast value (greater than 50), process the batch with confidence knowing that every low-contrast image will be adjusted automatically to the acceptable level of quality required for OCR.

Also critical for OCR is Software VRS' ability to perform an automatic deskew without character deformation. Traditional deskew software produces jagged edges, but SVRS' character edges remain smooth and precise even after deskew.



Traditional Deskew **VRS Deskew**

In addition to this contrast enhancement, brightness adjustment, and high quality deskew correction, Software VRS offers a range of other features to help you ensure the highest level of quality for every scanned image:

- Automatic Image cropping (Auto Crop) (only available on scanners producing black borders)
- Despeckling
- Gamma correction
- Character smoothing
- Character dilation/erosion
- Accelerated scanning

Software VRS Product Package

Your Software VRS product package includes the following items:

- Software VRS installation CD
- Software VRS hardware key(s)
- Software VRS *User's Manual*
- Software VRS *Quick Reference*

Three Versions of Software VRS

Your Software VRS Package will indicate as to whether you have:

- Software VRS for Personal Scanners
- Software VRS for Professional Scanners
- Software VRS for Professional Scanners with Adrenaline Image Processing Engine

Software VRS for Personal Scanners

Software VRS for Personal Scanners has the same functionality as Software VRS for Professional Scanners, but only supports personal scanners. Software VRS for Personal scanners works with TWAIN, ISIS, or ImageControls-based applications. For a list of certified personal scanners, see the section "Certified Scanners for Software VRS" on page 8.

Software VRS for Professional Scanners

Software VRS for Professional Scanners supports all scanners that Software VRS for Personal Scanners supports plus a range of higher end scanner models. Software VRS for Professional Scanners works with TWAIN, ISIS, and ImageControls-based applications. For a list of certified professional scanners, see the section "Certified Scanners for Software VRS" on page 8.

Software VRS for Professional Scanners with Adrenaline Image Processing Engine

This product includes both Software VRS for Professional Scanners and the Adrenaline Image Processing Engine. The Adrenaline Image Processing Engine provides you additional image processing such as bar code reading, forms recognition, line removal, and much more.

Note Software VRS for Professional Scanners with Adrenaline Image Processing Engine works with ImageControls-based applications only. It is not compatible with TWAIN and ISIS applications. For more details about the Adrenaline Image Processing Engine, consult the *Adrenaline Image Processing Engine Getting Started Guide*.

System Requirements

Be sure that your PC and scanner meet the following minimum requirements:

PC

Note: Some scanners require additional scanner memory for optimal Software VRS performance. See Appendix A on page 88 for more information.

Minimum Requirements

- Pentium III, 700 MHz processor, 128 MB RAM (256 MB for color scanning)
- Hard drive with 300 Mbytes free disk space for installation
- Monitor resolution: 800 x 600 minimum; 1024 x 768 recommended

Recommended Requirements

- Pentium III, 1000 MHz processor, 256 MB RAM (512 MB for color scanning)
- Hard drive with 300 Mbytes free disk space for installation
- Monitor resolution: 800 x 600 minimum; 1024 x 768 recommended

Certified Connectors

Only USB and SCSI connectors are certified to work with Software VRS. See Appendix A to verify which connector to use with your scanner.

Certified SCSI Connectors

- Kofax Adrenaline 650/650i
- Kofax Adrenaline 450
- Adaptec 1480 PCMCIA
- Adaptec AHA 29160
- Adaptec AHA 2940 AU
- Adaptec AHA 2940 U
- Adaptec AHA 2930 U/B/C
- Adaptec AHA 2906
- Adaptec AHA 2902 (Fujitsu 3091DC and 3092DC only)
- Adaptec AHA 1542 CP

Note: See the *SVRS 2.1 Release Notes* for additional USB installation information.

Certified Scanners for Software VRS

Since the release of Software VRS v1.2, a significant number of scanners have been added to the list of Software VRS certified scanners. To assist users, we have prepared a certified scanner list that gives details for each of the scanners certified for SVRS v2.1. In addition to listing the scanner name and manufacturer, the following pertinent information is also available:

- The driver used for SVRS 2.1 (TWAIN or ISIS)
- Whether the scanner is a Personal or Professional scanner
- Whether the scanner produces black or white borders around the scanned images (black borders are necessary for Software VRS to perform automatic cropping)
- Whether the scanner requires additional memory for optimal performance
- The interface certified by SVRS (SSCI, USB, or both)

See Appendix A on page 88 for the Certified Scanner List.

Certified Scan Applications

Software VRS is designed to work with any ImageControls, ISIS, or TWAIN application. As a convenience to our users, we periodically seek to confirm that there are no compatibility issues with applications in the field. The list of Certified Scan Applications is always growing, and we will continue to update this list in the *User's Manual*, but feel free to use *any application that is based on ImageControls, ISIS, or TWAIN*. The complete list of Scan Applications that work with SVRS 2.1 is as follows:

- Adobe Acrobat 4.0
- Adobe Acrobat Capture 3.0
- Cardiff TELEform versions 7 and 8
- DocuXplorer Personal and Professional
- Easy Software Easyware
- Imaging for Windows
- IMR Alchemy
- Metafile Information Systems, Inc. MetaViewer Enterprise
- PixView
- ScanSoft OmniPage Pro

TWAIN and ISIS Scanner Driver Support

All Software VRS scanners are supported by either TWAIN or ISIS drivers. Although some of these scanners will work with both ISIS and TWAIN drivers, only the driver that works best with Software VRS will be certified for use. See Appendix A on page 88 to determine if your scanner requires a TWAIN or an ISIS driver before installing Software VRS, then follow the driver-specific installation instructions that apply to your scanner.

Note: Please see the *SVRS 2.1 Release Notes* for additional TWAIN driver installation information.

Installation

This section covers the procedure for installing the hardware and software required to run Software VRS. Before beginning the installation procedure, see Appendix A on page 88 to determine if your scanner requires a TWAIN or an ISIS driver before installing Software VRS, then follow the scanner driver-specific installation instructions that apply to your scanner.

TWAIN Scanner Driver Support

If your scanner is listed in the TWAIN column in Appendix A on page 88, the TWAIN scanner driver must be installed before installing Software VRS. Go to page 25 for TWAIN installation instructions.

ISIS Scanner Driver Support

If your scanner is listed in the ISIS column in Appendix A on page 88, you do not need to use the installation CD-ROM that came with your scanner to install the necessary drivers. The ISIS drivers will be installed automatically with Software VRS (in some cases launching your scanner's specific splash screens.) Proceed to the next section, "Install the Hardware", to begin Software VRS installation.

Note The Fujitsu *fi*-4110CU requires a separate installation of the USB driver before installing Software VRS. See page 12 for the USB driver installation as well as special configuration instructions for the Fujitsu *fi*-4110CU.

Install the Hardware

The hardware installation process consists of the following basic steps:

1. Depending on whether you are using a SCSI or USB connection, do one of the following:

a. SCSI Connections:

   i. Connect the SCSI host adapter in your PC according to the installation instructions supplied with your SCSI host adapter.

   ii. Attach the scanner to your PC's SCSI host adapter according to the instructions supplied with your scanner and reboot your system.

   iii. Make sure that the basic scan software utility that was supplied with your scanner works correctly.

b. USB Connections:

   i. Plug in the USB cable from your scanner to the USB port. Windows will detect the new device and will launch the New Hardware Found wizard.

   ii. Follow the instructions on screen to locate the necessary driver on the floppy disk or CD supplied with your scanner.

2 Install your scanning application, whether ImageControls-based, TWAIN, or an ISIS application. If you are installing an ImageControls-based application in conjunction with other Kofax products, see Appendix A.

3 Attach the Software VRS hardware key to the parallel port of your PC.

4 You are now ready to install Software VRS.

Note Fujitsu *fi*-4110CU scanner users please see the next section, "Fujitsu *fi*-4110CU USB Installation", before installing Software VRS.

Fujitsu *fi*-4110CU USB Installation

This section describes the installation of the Fujitsu *fi*-4110CU USB driver as well as instructions for additional configuration recommended for using this scanner with Software VRS. The Fujitsu *fi*-4110CU is supported only on Windows 98, ME, and Windows 2000.

Note During the installation of the USB driver, you will need to insert the CD-ROM that came with your Fujitsu *fi*-4110CU. As the Fujitsu *fi*-4110CU ScanPartner® CD-ROM requires Adobe Acrobat Reader, make sure that you have installed Adobe Acrobat Reader and that it is working on your computer before you attempt to install the Fujitsu *fi*-4110CU USB driver.

Windows 98/ME Installations

▶ **To install the USB driver for the Fujitsu *fi*-4110CU (Installation on Windows 98 using the Windows Add New Hardware Wizard)**

1. Install the scan application you plan to use with Software VRS according to the instructions provided by the manufacturer.
2. Plug in the scanner. Windows will automatically launch the Add New Hardware Wizard, which detects the device (scanner) you plugged in.

Figure 1. Add New Hardware Wizard Initial Screen

3. Select **Next** as shown in Figure 1.

4 Select **Search for the best driver for your device**, and then click **Next** as shown in Figure 2.

Figure 2. Prompt Windows to Search for the Best Device Driver

5 Insert the Fujitsu *fi*-4110CU ScanPartner® installation CD.

6 Select **Specify a location**, then type the following location into the text box, F:\ISIS\WIN98_ME (where F is the letter of your CD-ROM drive), as shown in Figure 3.

7 Click **Next**.

Figure 3. Select the Location to Search for the Driver

8 Click **Next** to confirm that the correct driver has been found, as shown in Figure 4.

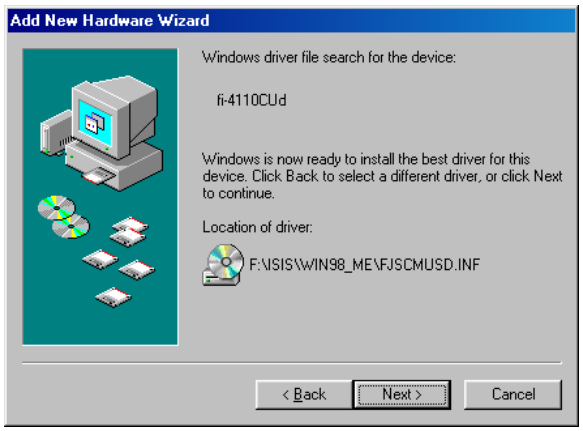


Figure 4. Windows Confirms the Location of the Driver

9 You may be prompted to insert your Windows 98 Second Edition CD-ROM for certain files. If so, at the screen similar to Figure 5, do the following:

a. Insert the Windows 98 Second Edition CD-ROM.

b. Type F:\WIN98 into the text box provided, where F is the letter of your CD-ROM drive.

c. Click **OK**.

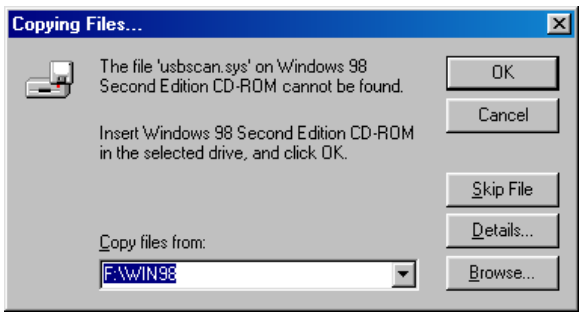


Figure 5. Insert Windows 98 Second Edition CD-ROM

Figure 6. Successful Installation

2 Click **Finish** at the screen that confirms the successful installation as shown in Figure 6.

3 Follow the "Post USB Driver Installation Procedure" on page 19.

Windows 2000 Installations

▶ **To install the USB driver for the Fujitsu *fi*-4110CU (Installation on Windows 2000 using the Found New Hardware Wizard)**

1 Install the scan application you plan to use with Software VRS according to the instructions provided by the manufacturer.

2 Plug in the scanner. Windows will automatically launch the Found New Hardware Wizard.

Figure 7. Add New Hardware Wizard Initial Screen

3 Select **Next** as shown in Figure 7.

4 Select **Search for the best driver for your device**, then click **Next** as shown in Figure 8.

Figure 8. Prompt Windows to Search for the Best Device Driver

5 Insert the Fujitsu *fi*-4110CU ScanPartner® Installation CD. If the Fujitsu installation program launches in a new window, close that window and you will be able to continue the USB driver installation.

6 At the screen similar to Figure 9, select **Specify a location**. Click **Next**.

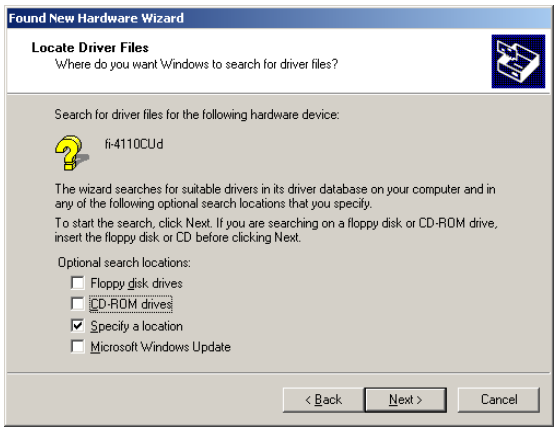


Figure 9. Choose to Specify a Location

7 Type the following location into the text box—G:\ISIS\WIN2K (where G is the letter of your CD-ROM drive)—as shown in Figure 10, then click **OK**.

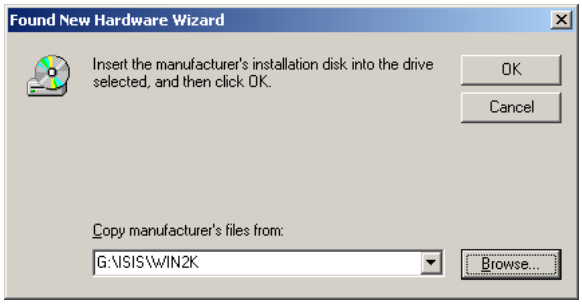


Figure 10. Type Path to Driver

8 A screen will appear, similar to Figure 11, confirming that the correct driver has been found. Click **Next** to continue.

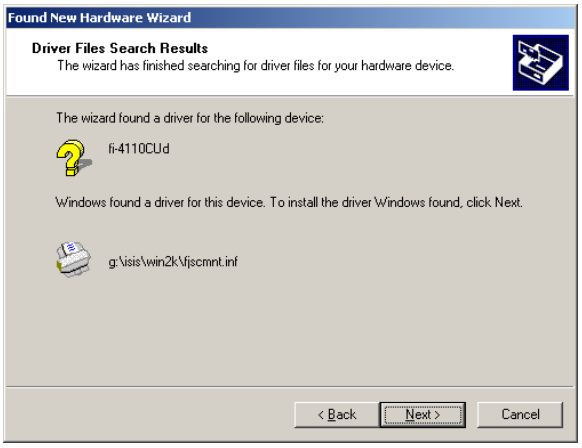


Figure 11. Windows Confirms the Location of the Driver

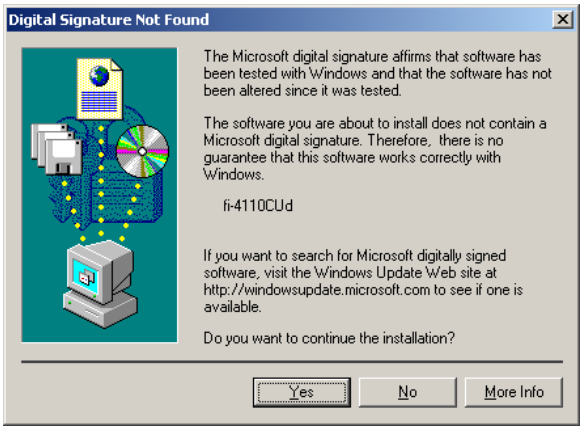


Figure 12. Digital Signature Alert

9 **A Digital Signature Not Found** screen will appear. This is as-designed. Simply click **Yes** to confirm that you want to go ahead with the installation as shown in Figure 12.

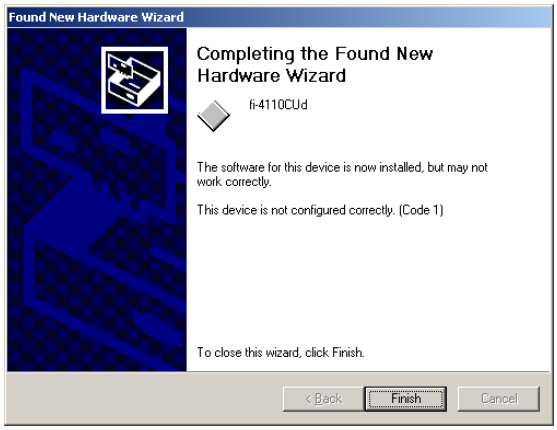


Figure 13. Windows Confirms the Successful Installation

4 Click **Finish** at the screen that confirms the successful installation of the USB driver as shown in Figure 13.

5 Follow the "Post USB Driver Installation Procedure."

Post USB Driver Installation Procedure

Once you have installed the USB driver, complete the following steps before you install Software VRS.

The Fujitsu *fi*-4110CU is designed to launch Imaging for Windows when you insert paper into the ADF. However, for best use of this scanner with SVRS, we recommend that you disable this particular device event.

▶ To disable device events for the Fujitsu *fi*-4110CU

1 Open the **Control Panel** and select **Scanners and Cameras**.

2 Select the Fujitsu *fi*-4110CU scanner from the list of devices, and click on the **Properties** button.

3 Select the **Events** tab.

4 Select the **Auto check for paper supply** check box from the list of Scanner Events.

5 At the bottom of the screen, select the **Disable Device Events** check box.

6 Click on **Apply,** then select **OK** to close the dialog box.

Note The **Send T**o and **Scan** buttons will no longer launch the Imaging for Windows application and will be inactive. However, they may be restored at any time by simply deselecting the **Disable Device Events** check box.

7 Attach the Software VRS hardware key to the parallel port of your PC.

8 Install Software VRS using the steps listed on page 21.

Note When you launch Software VRS for the first time, you may receive an alert similar to Figure 14. This is as-designed. Simply select **Do not show this dialog for this driver agai**n and click **Continue**. Operate Software VRS as normal.

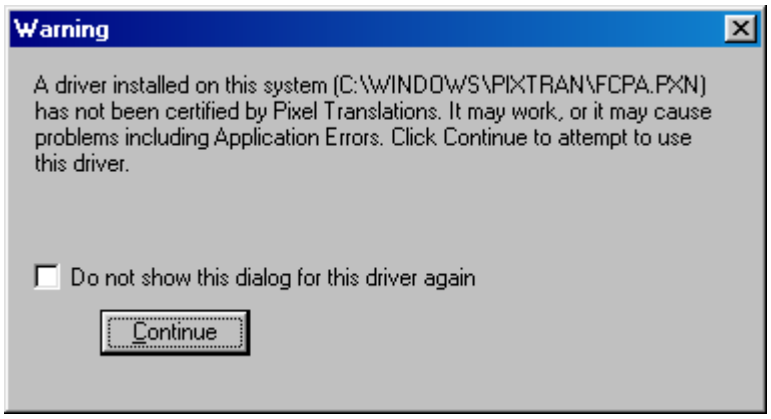


Figure 14. ISIS Driver Alert

Install the Software

Because steps 1, 2, and 3 depend on the interface between your scanner and computer (for example SCSI or USB), scanner model, and scanning application you will use, consult the installation guides of the corresponding device when in doubt.

By default, Software VRS is installed to the same folder as your ImageControls-based scanning application, if one is installed on your PC. Otherwise, the default installation folder is C:\Program Files\Kofax\Imgctls. You can choose a different installation folder if you wish.

Note To install Software VRS on Windows 2000 or Windows NT, you must have administrator rights.

▶ To install Software VRS

1. Insert the Software VRS installation CD in the appropriate CD-ROM drive.
2. The installation should automatically begin. If it doesn't, select **Start|Run** and open D:\Setup.exe as shown in Figure 15, where D is the CD-ROM drive. To select the path, do one of the following from the **Run** dialog box:
3. Use the **Browse** button to select the path.
4. In the text box, type in the path.

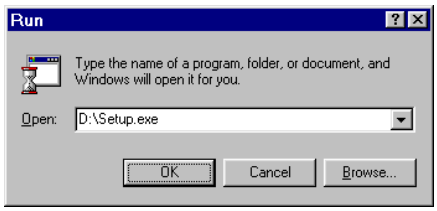


Figure 15. Software VRS Installation Program Path

5. If prompted to update the MS Runtime files on your PC, update the files. Otherwise, Software VRS will not be installed.
6. Click **OK** to start the **VirtualReScan Setup** dialog box, as in Figure 16.

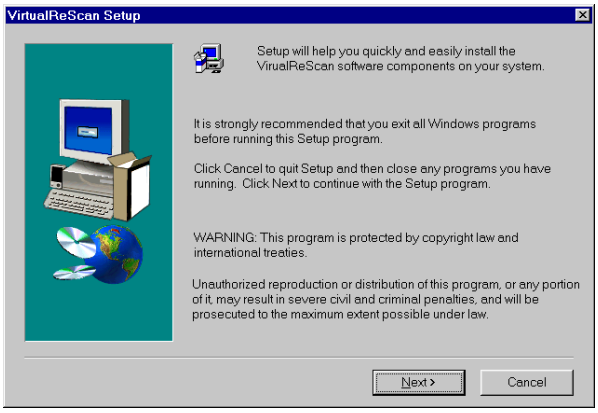


Figure 16. VirtualReScan Setup Dialog Box

7 Click **Next** to open the **VirtualReScan Setup** panel as shown in Figure 17.

8 Verify that the destination folder is correct. The default folder is C:\Program Files\Kofax\ Imgctls. If desired, use the **Browse** button to select a different installation folder.

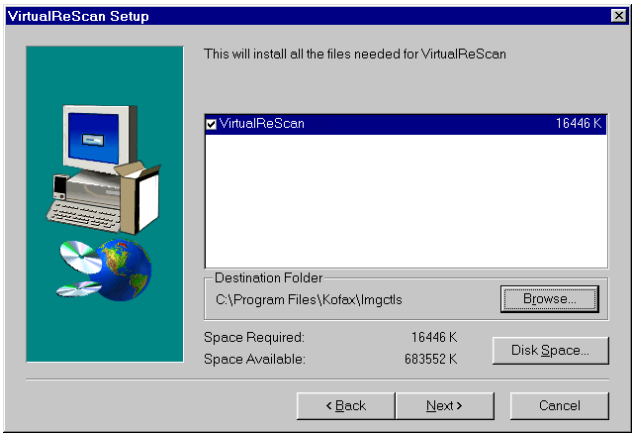


Figure 17. VirtualReScan Setup Dialog Box - Destination Folder

9 Click **Next** to open the **Scanner Selection** dialog box.

10 On the screen similar to Figure 18, select a scanner to use with Software VRS.

11 If you want to use a scanner that is not SVRS certified, and thus not supported by our technical support center, select **Do not configure a scanner now. I will configure my scanner using KSM at a later time**.

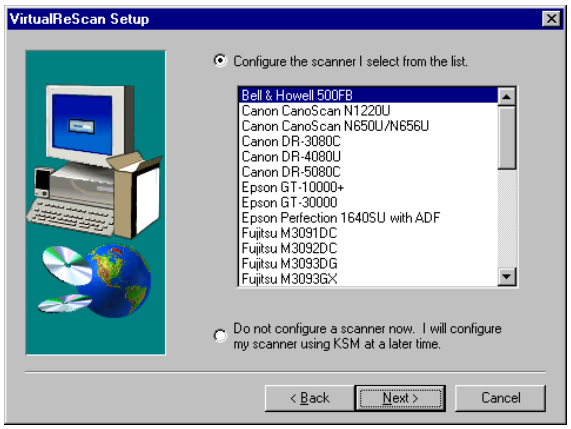


Figure 18. VirtualReScan Setup Dialog Box – Scanner Selection

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Note You may select only one scanner model at installation. To change scanners, you can either uninstall then reinstall Software VRS, or use the KSM utility as described in Appendix B.

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12 The installation begins, and a progress indicator stays in view until the process is done.

13 If your scanner is listed in the TWAIN column in Appendix A on page 88, you will receive a message similar to Figure 19. As you have already installed the TWAIN driver at this point, simply click **OK**.

Figure 19. Notice to Install TWAIN Driver

14 When the Software VRS installation finishes, the **Setup Complete** dialog box appears, similar to Figure 20.

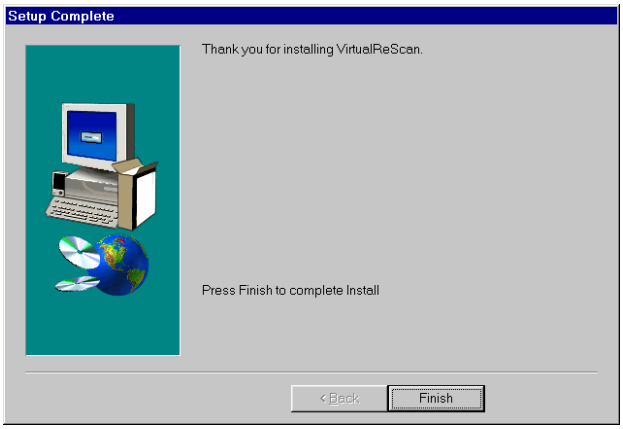


Figure 20. Setup Complete Dialog Box

15 Click **Finish** to complete the installation.

16 Remove the Software VRS installation CD from the CD-ROM drive and store it in a safe place.

TWAIN Installation

If your scanner is listed as TWAIN in Appendix A, Column 2, a TWAIN driver is required to use Software VRS. This section covers the procedure for installing the TWAIN driver for several representative Software VRS Certified scanners. See Appendix C to install the TWAIN driver for non-Certified (Compatible) scanners.

Note For best results, install your scan application and verify that everything is working before you attempt to install Software VRS. This will eliminate any confusion as to whom to call for technical assistance. And while this manual describes the steps to install the TWAIN driver, the best resource for TWAIN driver installation is the manufacturer-provided installation instructions.

Windows 98 Installations

▶ **To install the TWAIN driver for the Canon Canoscan (Installation on Windows 98 using the Windows New Hardware Found Wizard)**

1. Install the scan application you plan to use with Software VRS according to the instructions provided by the manufacturer.
2. Plug in the scanner. Windows will automatically launch the New Hardware Wizard, which detects the type of scanner you plugged in.
3. Verify that the correct scanner is listed, then select **Next**, as in Figure 21.

Figure 21. Add New Hardware Wizard Initial Screen

4 Select **Search for the best driver for your device**, and then click **Next** as shown in Figure 22.

Figure 22. Prompt Windows to Search for the Best Device Driver

5 Insert the CD or floppy disk provided by your scanner manufacturer.

6 Select the option for the kind of disk provided by the manufacturer, either **Floppy disk drives** or **CD-ROM drive**.

7 Click **Next**, as shown in Figure 23. If you have not inserted the CD or floppy disk, an error screen will prompt you to try again.

Figure 23. Select the Location to Search for the Driver

8 Click **Next** to confirm that the correct driver has been found, as shown in Figure 24.

Figure 24. Windows Confirms the Location of the Driver

9 Click **Finish** at the screen that confirms the successful installation as shown in Figure 25.

Figure 25. Confirmation of Driver Installation

10 Follow the "Post TWAIN Installation Procedure" on page 37.

▶ To install the TWAIN driver for the Epson Perfection 1640SU Office Scanner with ADF (Installation using bundled software)

1. Install the scan application you plan to use with Software VRS according to the instructions provided by the manufacturer.
2. Reboot your computer.
3. Turn on your scanner. A screen appears similar to Figure 26.

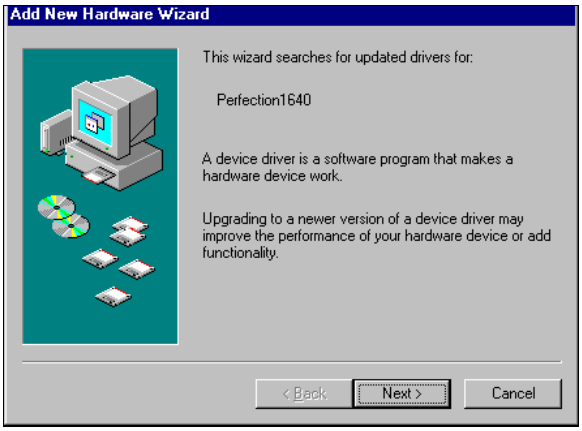


Figure 26.

4. Insert the scanner software CD-ROM, then click **Next**.
5. Choose the option to search for the best driver for your device (**Search for a suitable driver for your device** in Windows 2000), then click **Next**.

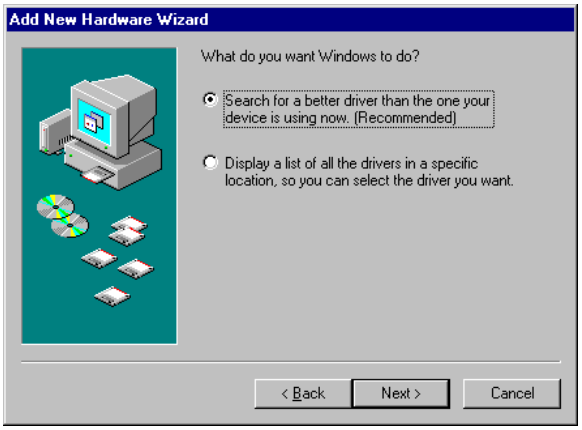


Figure 27.

6 Select **Specify a Location**, click **Browse**, select **TWAIN 5\WIN98** or **TWAIN 5\WIN2000** from the scanner software CD-ROM, then click **OK**.

Figure 28.

7 Click **Next**. Windows will find the driver and display the following screen:

Figure 29.

8 Click **Next**. The TWAIN driver will be installed.

Note You may be required to insert your Windows operating system CD-ROM to install specific files. If that is the case, remove the EPSON CD, insert the Windows OS CD (or **Browse** to the correct folder), then click **OK**. You will be prompted to re-insert the EPSON disk once the appropriate Windows files are installed.

9 When the scanner installation is complete, the **Screen Calibration** screen will appear. Follow the on-screen instructions and click **OK**.

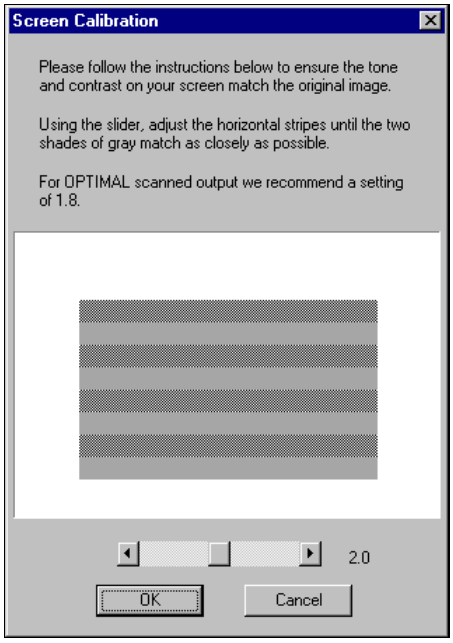


Figure 30. Screen Calibration

10 Click **Finish**.

Figure 31.

11 Follow the "Post TWAIN Installation Procedure" on page 37.

▶ To install the TWAIN driver for the Fujitsu ScanPartner® 15C or 620C (Installation via the Windows Found New Hardware Wizard)

1 Install the scan application you plan to use with Software VRS according to the instructions provided by the manufacturer.

2 Insert the scanner installation CD into the CD-ROM drive on your computer.

3 Select the options for **ScandAll**, **TWAIN Driver**, and **Documentation**, then click **Next** as shown in Figure 32.

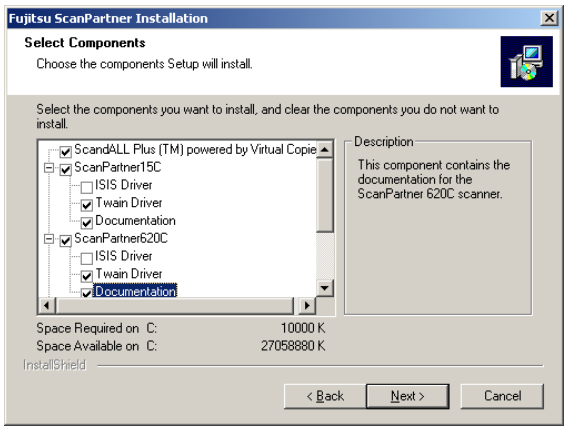


Figure 32. Select Components to Install

4 Choose the installation directory for the documentation, the **Start** menu location, and then confirm your installation option as shown in Figure 33.

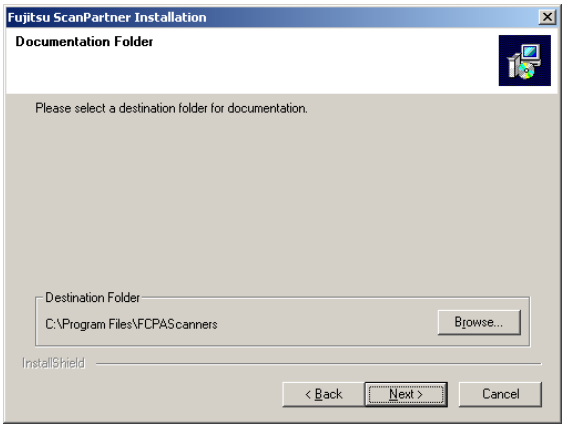


Figure 33. Confirm the Destination Folder

5 Click **Next** again and the installation will start as shown in Figure 34.

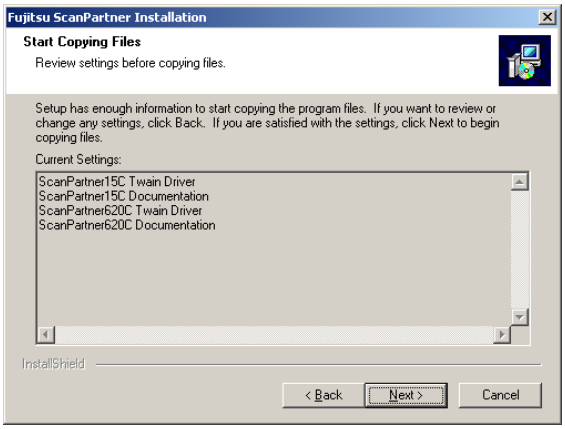


Figure 34. Copying Files

6 The **ScanPartner® setup** program will launch. Select **Next** again as shown in Figure 35.

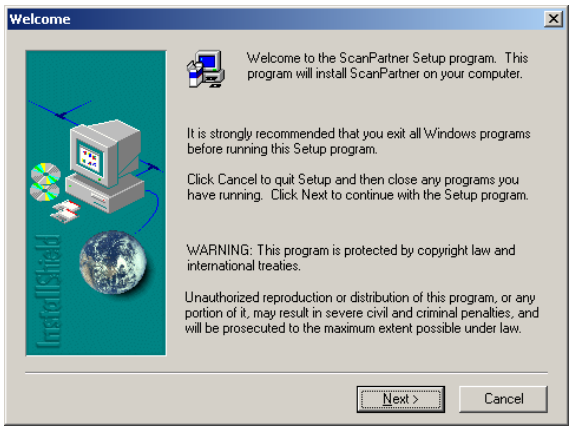


Figure 35. ScanPartner® Setup

7 Select **Next** at the screen similar to Figure 36.

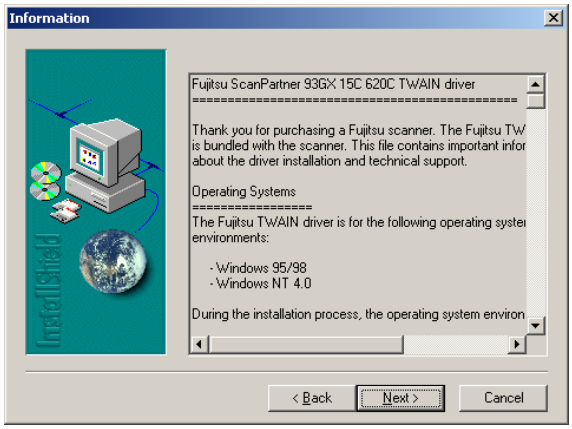


Figure 36.

8 Verify that the destination folder is correct and select **Next**, as shown in Figure 37.

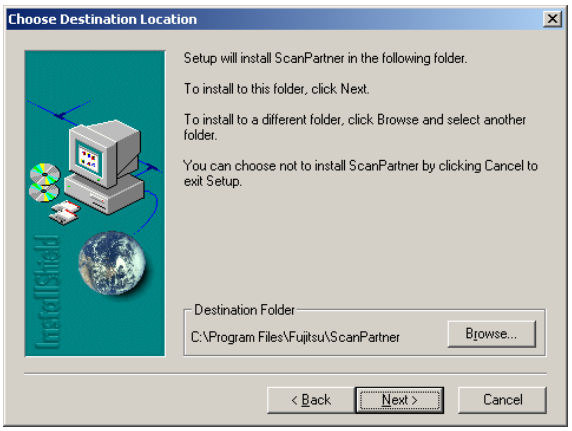


Figure 37.

9 Accept the default program folder by selecting **Next**.

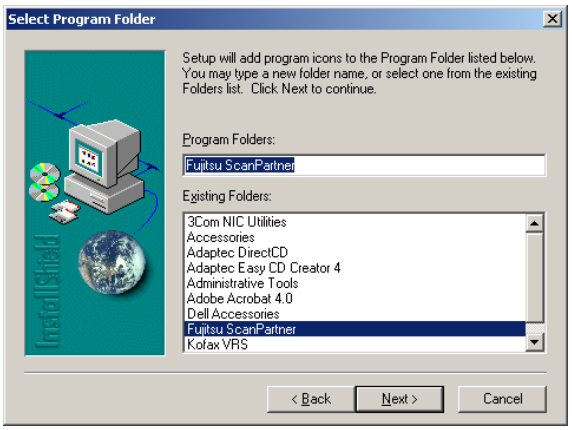


Figure 38.

10 Click **Finish** on the screen similar to Figure 39.

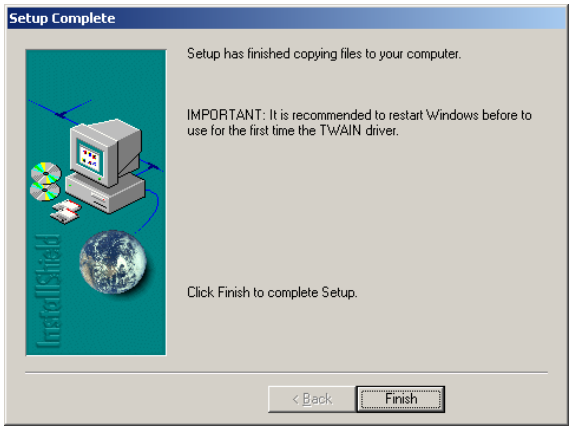


Figure 39.

11 Make your selection as to registration, and click **Finish**.

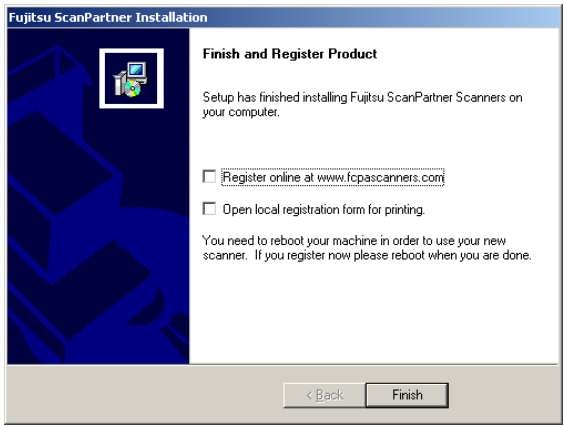


Figure 40.

12 Restart your computer when prompted as in Figure 41.

Figure 41.

13 Follow the "Post TWAIN Installation Procedure" on page 37.

Windows NT 4.0 Installations

The following Software VRS certified scanners are capable of being installed on NT 4.0 operating systems:

- Epson Perfection 1640 SU
- Fujitsu ScanPartner® 15C
- Fujitsu ScanPartner® 620C

As an example installation procedure, this section describes the steps to install the TWAIN driver on an Epson 1640 SU. However, the best resource for TWAIN driver installation is the manufacturer-provided installation instructions. If your scanner is not listed above, consult your scanner documentation as to whether your scanner supports NT 4.0.

▶ How to install the Epson 1640 SU on NT 4.0

1 You may be required to install certain files from your Windows operating system CD-ROM during the scanner installation. Be sure you have the Windows CD-ROM in case you need it, or can browse to the directory where it is located.

2 Ensure that the SCSI board and SCSI driver are installed, and that the scanner is attached to the computer.

3 Turn on your computer.

4 Log onto Windows NT and insert your scanner software CD-ROM in your drive.

5 Double-click **My Computer**, then double-click the **Epson CD-ROM** icon. The **CD-ROM** window opens.

6 Double-click **EPSON.exe**.

7 The software License Agreement appears. After reading the license agreement, click **Agree** to continue with the installation.

8 At the **Install TWAIN Driver** screen, click **Install**.

9 Follow the instructions on screen to install your TWAIN driver.

10 When installation is complete, ensure that the Epson Perfection 1640 is listed as the Scanner Selection.

11 Click **Test** to check the connection. If the scanner software is installed correctly, you will see "Status: Device Ready" under Scanner Information.

12 Click **OK** to close the window.

13 Proceed to the "Post TWAIN Installation Procedure" on page 37.

Post Twain Installation Procedure

There are several steps that must be completed before you install Software VRS. Once you have completed the installation of the TWAIN driver, do the following:

1 When installation is complete, plug in your scanner and verify that your scanner works with your scan application before installing Software VRS. If the scan completes successfully, you are ready to install Software VRS. If there is a problem with the scanner, consult your scanner documentation. You may need to contact the technical support for the scanner. Make sure you resolve any such issues before attempting to install Software VRS.

2 Attach the Software VRS hardware key to the parallel port of your PC.

3 Install Software VRS using the steps listed on page 21.

Note When launched, Software VRS will remind you to install the TWAIN driver as shown in Figure 42. As you have already installed the TWAIN driver, simply click **OK** to continue.

Figure 42. Notice to Install TWAIN Driver

Starting Software VRS with an ImageControls Application (ScanDemo)

Once Software VRS is installed and you have opened your ImageControls-based application (Kofax ScanDemo, for example), you will need to activate Software VRS.

▶ To start Software VRS

1. Turn on your scanner.
2. Switch on your PC.
3. Start your scanning application.
4. Select the scan source as shown in Figure 43.
   - **<Your Scanner Model> with SVRS** source
5. Select the TWAIN source if your scanner uses a TWAIN driver as shown in Figure 44.
6. Click **OK**.
7. The **Software VRS** icon will appear on your Windows taskbar, as shown in Figure 45.
8. Follow your scan application's instructions to scan as usual.

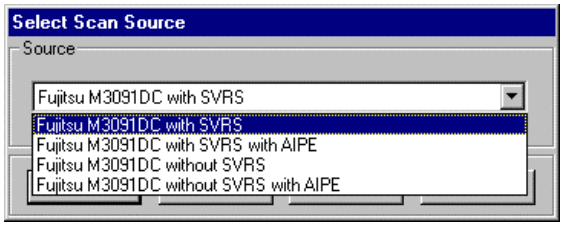


Figure 43. Select Scan Source Dialog Box – ImageControls

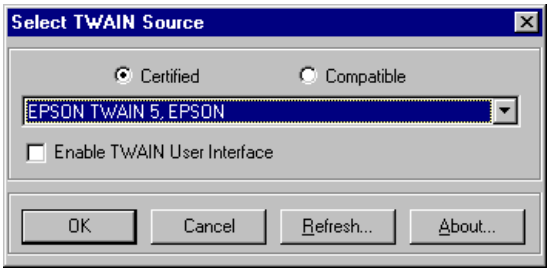


Figure 44. Select TWAIN Source Dialog Box – ScanDemo

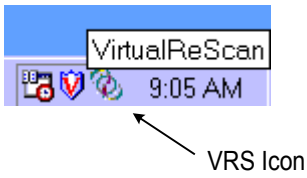


Figure 45. VRS Icon in Windows Taskbar

Starting Software VRS with a TWAIN Application (Imaging for Windows)

Once the installation is complete, and you have opened your scan application (for example, Imaging for Windows), you will need to activate Software VRS.

Note During the Software VRS installation process, the Software VRS Source is automatically created and set as the default scanning source. However, you can switch scanners without reinstalling Software VRS. See Appendix D for instructions on resetting the default scanner for the Kofax TWAIN source.

▶ **To start Software VRS**

1. Turn on your scanner.
2. Switch on your PC.
3. Start your scanning application.
4. Select the scan source below:
   - **Kofax Software VRS – TWAIN**

   (Two examples of this dialog box are shown in Figures 46 and 47.)
5. Click **OK**.
6. The **Software VRS** icon, shown in Figure 45, will appear once you start to scan.
7. Follow your scan application's instructions to scan as usual.

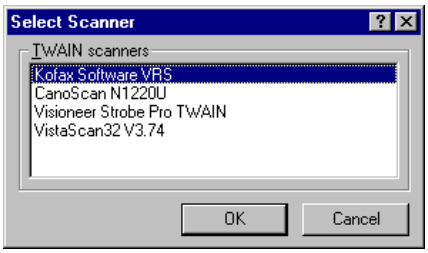


Figure 46. Select Scanner Dialog Box – Imaging for Windows (TWAIN)

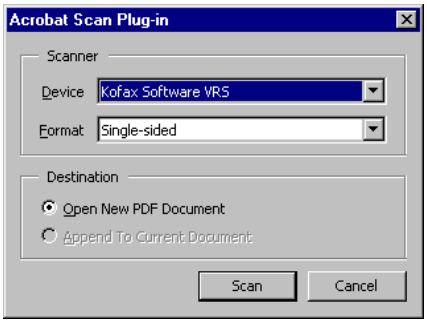


Figure 47. Adobe Acrobat Scanner Select Dialog Box (TWAIN)

Starting Software VRS with an ISIS Application (Pix View)

Once Software VRS is installed and you have opened your scan application (for example, Pixel Translations' Pix View), you will need to activate Software VRS.

Note During the Software VRS installation process, the Kofax Software VRS Source is automatically created and set as the default scanning source. However, you can switch scanners without reinstalling Software VRS. See Appendix D for instructions on resetting the default scanner for the Kofax ISIS source.

▶ **To start Software VRS**

1. Turn on your scanner.
2. Switch on your PC.
3. Start your scanning application.
4. Select the scanner as shown in Figure 48.
5. Click **OK**.
6. Select the Kofax scan source as shown in Figure 49:
   - **Kofax Software VRS – ISIS**
7. Click **OK**.
8. If the application notifies you that another driver is being installed, as shown in Figure 50, click **Continue**.
9. **Software VRS'** icon on the Windows taskbar will appear once you start to scan (shown in Figure 45). Follow your scan application instructions to scan.

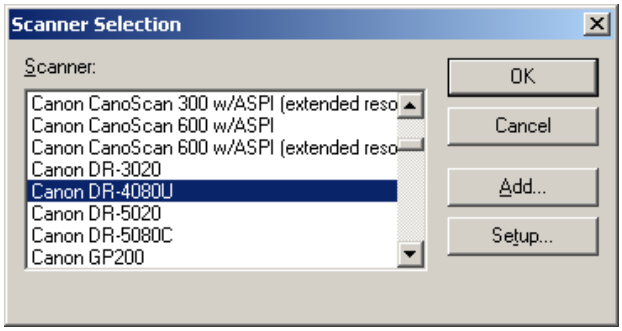


Figure 48. Pixel Translations Pix View Scanner Select Dialog Box (ISIS)

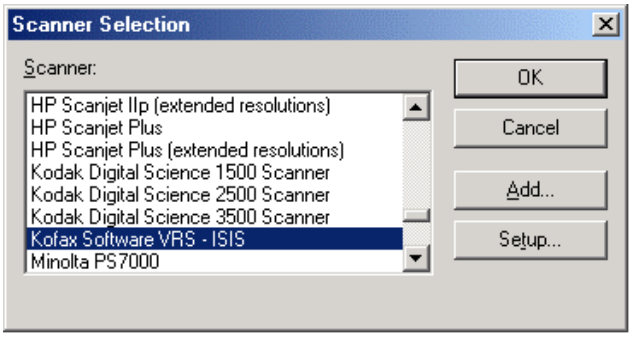


Figure 49. Select the Scan Source in Pix View

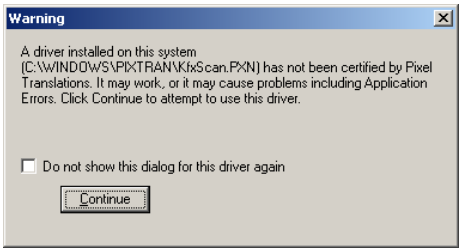


Figure 50. New Driver Notice

Opening the Software VRS Menu

You can open the Software VRS menu to configure exception condition parameters, preview and update image properties, or select a profile or operating mode.

Note You can access context-sensitive help at any time by pressing **F1**.

▶ To open the Software VRS menu

1 From the Windows taskbar, right click the **VirtualReScan** icon to open the **Software VRS** menu.

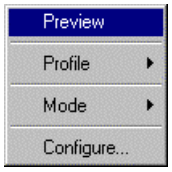


Figure 51. Software VRS Menu

2 During installation, all Software VRS settings were optimized for your scanner. You will notice that these pre-configured default settings will make it possible to scan a document with a variety of background colors, text quality, and paper sizes without any changes.

3 If you want to optimize Software VRS for a particular document type, begin by selecting the Preview command. For more information, see the section "Previewing Images" on page 86.

Software VRS Menu Commands

The **Software VRS** menu consists of the following commands:

Preview

Use this command to open a sample image so that you can test image property settings.

Note The Preview will operate slightly differently in applications that are supported via ISIS or TWAIN.

For more information, see the section "Previewing Images" on page 86.

Profile

Use this command to select a profile, which consists of user-defined settings for image processing. For more information about profiles, see the section "Using the Profile Tab" on page 80.

Mode

Use this command to select an operating mode, which determines the conditions under which the Software VRS user interface opens during a scanning session. For more information, see the section "Selecting a Mode" on page 58.

Configure

Use this command to open the **Software VRS Administration Utility** dialog box, which is used to define exception condition parameters. For more information, see the section “Software VRS Administration Utility” on page 47.

Software VRS Administration Utility

The **Software VRS Administration Utility** dialog box consists of three tabs:

- **Warnings** tab—relates to image quality issues
- **Errors** tab—relates to equipment conflicts and paper transport issues
- **Accelerated Scanning** tab—gives access to a slider to increase the speed of your scanner

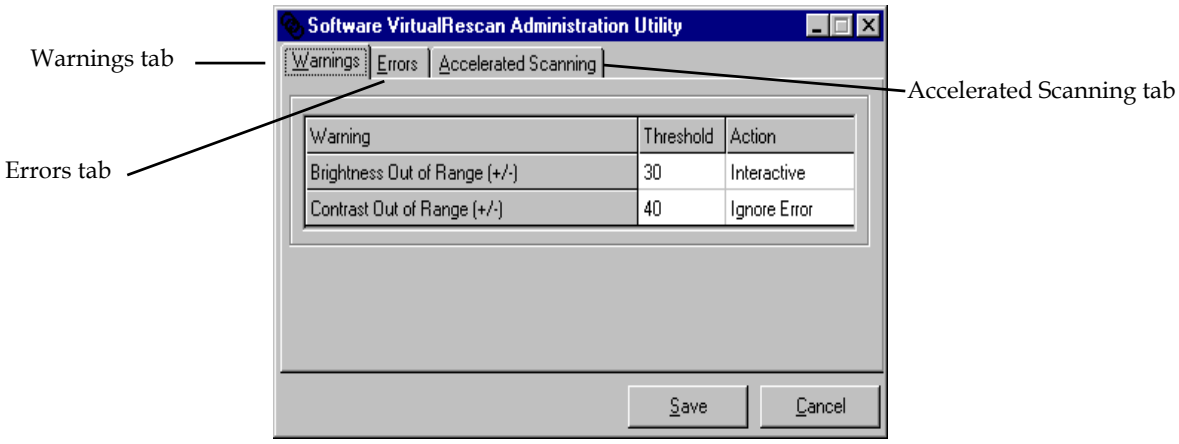


Figure 52. Software VRS Administration Utility Dialog Box - Warnings Tab

When you install Software VRS, the settings that will allow you to scan documents and accurately capture data in the shortest time possible will be automatically set on your system. These default settings have been carefully chosen to allow Software VRS to excel at a wide range of documents without adjustments.

The default settings for the **Software VRS Administration Utility** dialog box are as follows:

Scanner	Tab	Warning/ Error Type	Threshold	Action	Setting
All	Warnings	Brightness Out of Range	30	Interactive	
All	Warnings	Contrast Out of Range	40	Ignore Error	
All	Errors	Paper Jam	N/A	Auto Resolve	
All	Errors	Out of Paper	N/A	Auto Resolve	
All	Errors	Cover Open	N/A	Auto Resolve	
All	Errors	Cover Open	N/A	Ignore Error	
All	Errors	Auto Crop Failure	N/A	Ignore Error	
All	Errors	Auto Deskew Failure	N/A	Intervention	
HP Scanjet 6250, 6300, 6350 only	Accelerated Scanning				Second notch from Image Quality: Best, moving right
All	Accelerated Scanning				Image Quality: Best, Acceleration: None

If you wish, you can modify the Software VRS Administration Utility settings. Before scanning, you will need to set up parameters that define your requirements for image quality and exception handling. To set the parameters, open the **Software VRS Administration Utility** dialog box by selecting the **Configure** command from the **Software VRS** menu.

Through the **Warnings** and **Errors** tabs, you define settings that tell Software 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 Software VRS handles each exception type. The settings on the **Software VRS Administration Utility** dialog box remain in effect until you change them again.

For detailed information on changing the settings, see the sections "Warnings Tab", below, "Accelerated Scanning Tab" on page 56, and "Errors Tab" on page 51. Also, see the online help for a complete list of default Software VRS Administration Utility settings.

Warnings Tab

The **Warnings** tab lists exception conditions associated with image quality. For each condition, set a threshold value to the level at which you want Software VRS to consider an image as an exception. In the **Action** column, select the response to each warning type. Table 1 lists the types of warnings and their causes.

Table 1. 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.

Selecting the Threshold

The threshold defines the "margin of error" that Software VRS tolerates for brightness and contrast. Software VRS intercepts any image with values that fall outside the margin of error, then handles the image according to the action you define for each exception type.

Brightness Out of Range Threshold

Use the threshold to define the valid range for brightness values. When a document is scanned, Software VRS evaluates the resulting image to determine its brightness. Then, Software VRS compares it to the user-defined acceptable range determined by 50 plus or minus the value in the Brightness Out of Range threshold setting in the **Warnings** tab. Based on this real-time evaluation, Software VRS either accepts the image and allows it to be passed on to the scanning application, or intercepts it and responds according to the user-defined action in the **Warnings** tab.

For example, if the threshold is 10 on the **Warnings** tab, Software 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. Software VRS would respond by taking the action listed on the **Warnings** tab for Brightness Out of Range.

Contrast Out of Range Threshold

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

For example, if the threshold is 15 on the **Warnings** tab, Software 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. Software VRS would respond by taking the action listed on the **Warnings** tab for Contrast Out of Range.

Selecting an Action

When a warning condition occurs, Software VRS handles it according to the **Action** setting you select. For details on selecting an action type, see the section "Action Options" on page 52.

Errors Tab

The **Errors** tab lists exception conditions caused by equipment conflicts or paper transport issues. In the **Action** column, select the desired Software VRS response for each error type. To change the setting, click in the Action box and select the new setting from the drop-down list. For details, see "Action Options" on page 52.

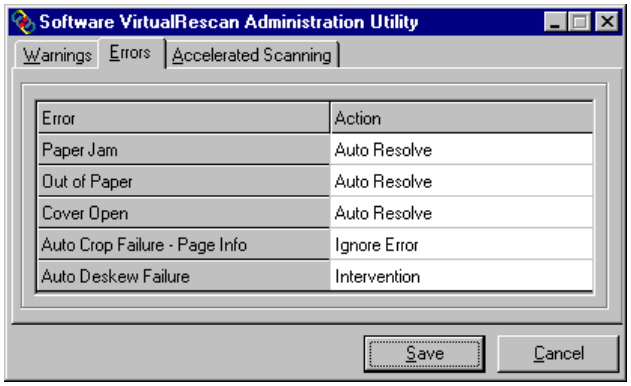


Figure 53. Software VRS Administration Utility - Errors Tab

Table 2. Error Types

Error	Description
Paper Jam	Paper jam occurs in the scanner paper path.
Out of Paper	No paper is available to scan.
Cover Open	Scanner cover is not closed securely.
Auto Crop Failure	Due to excessive skew or other condition, Software VRS is unable to detect the edges of the scanned document. **Note** *Auto Crop is only supported on scanners producing black border around the document.*
Auto Deskew Failure	The image does not contain sufficient horizontal or vertical lines to perform a correct deskew. Use the **Skew** tab to make a manual correction.

Action Options

Use the **Action** list to define how you want Software VRS to handle each exception condition on the **Warnings** tab and the **Errors** tab. To define an exception action type, click in the **Action** option on the **Warnings** tab or the **Errors** tab, and select from the drop-down list. The action options vary, according to the type of warning or error.

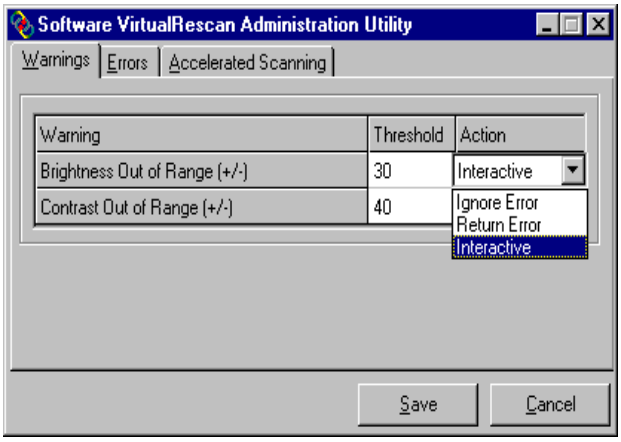


Figure 54. Action Drop-Down List

Table 3. Action Types

Action Type	Description
Ignore error	Accepts image "as is," passes it to the host application, and resumes the scanning session.
Return Error	Passes error (without the image) to the host application.
Intervention	Opens the Auto Resolve Manager in manual mode. As a result, the user is presented a range of options for handling the error. See the next section, "Using the Auto Resolve Manager."
Auto Resolve	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 loose cable, paper jam, or out of paper condition. See the next section, "Using the Auto Resolve Manager."
Interactive	Opens the **Software VRS Interactive Properties** dialog box and displays the image in the **Software VRS** viewer, so that the user can apply new settings to the current image.

▶ To define exception condition parameters

1. From the **Windows** taskbar, right click on the **Software VRS** icon to open the **Software VRS** menu.
2. From the **Software VRS** menu, select **Configure** to open the **Software VRS Administration Utility** dialog box.
3. Select one of the following tabs:
   - **Warnings** tab
     The **Warnings** tab gives you options to set the threshold and response for exceptions related to image quality, as listed in Table 1 on page 49.
   - **Errors** tab
     The **Errors** tab gives you options to set the response for exceptions related to equipment conflicts, paper transport errors, and edge detection, as listed in Table 2 on page 51.
4. Adjust the settings for each tab.
   - **Warnings** tab—Threshold
     From the **Warning**s tab, you can type directly into the **Threshold** text box, or click the arrows to select a new threshold setting. For information about threshold settings, see the section "Warnings Tab" on page 49.
   - **Warnings** tab/**Errors** tab—Action
     From the **Warnings** tab and the **Error**s tab, define a Software VRS response to each exception type by clicking in the **Action** option and selecting from the drop-down list. For details, see "Action Options" on page 52.
5. Once you are satisfied with the settings, click **Save**.

Using the Auto Resolve Manager

Software VRS opens the **Auto Resolve Manager** dialog box for each occurrence of an exception condition with an Action type of Intervention or Auto Resolve, as defined in the **Software VRS Administration Utility** dialog box. The Auto Resolve Manager gives you a range of exception handling selections, as explained below.

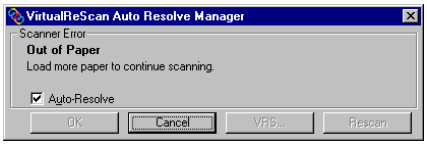


Figure 55. Software VRS Auto Resolve Manager

Auto Resolve Check Box

The check box is selected if you designated the error condition action response as **Auto Resolve** from the **Software VRS Administration Utility** dialog box. With the check box selected, the Auto Resolve Manager goes into automatic mode. As a result, Software VRS automatically attempts to rescan until the exception condition is resolved. If you want to temporarily disable the Auto Resolve function for the error in question, unselect the check box. Then select the **Rescan** button when you are ready to scan the document again.

With the **Auto Resolve** check box cleared, the Auto Resolve Manager enters manual mode and enables the **OK**, **Cancel**, **VRS**, and **Rescan** buttons. As a result, Software VRS takes no action until you select one of the buttons.

OK (manual mode only)

Use this button to accept the image "as is," send it to the scanning application, and proceed with the scanning process.

Cancel

Use this button to stop the batch or cancel the scanning process. When you select **Cancel**, any error information is passed to your scanning application. The error image(s) are not sent to the scanning application.

VRS… (manual mode only)

Use this button to open the **Software VRS Interactive Properties** dialog box so that you can apply property changes to the image in question. The **Software VRS Interactive Properties** dialog box opens to the tab that most closely relates to the current exception image. For example, if you receive a Brightness Out of Range warning, the **Software VRS Interactive Properties** dialog box would open to the Clarity tab.

Rescan (manual mode only)

After reloading a document into the scanner, select this button to rescan the sheet.

Accelerated Scanning Tab

While high-resolution settings have a positive impact on image quality, they can slow down the scanning process. With Accelerated Scanning in effect, Software VRS achieves the quality of a high-resolution image without compromising speed. To maintain speed, Software VRS scans the image at a rate that is lower than the DPI (dots per inch) rate defined in your scanning application. Then, Software VRS performs an internal translation so that the image is output at the desired DPI setting.

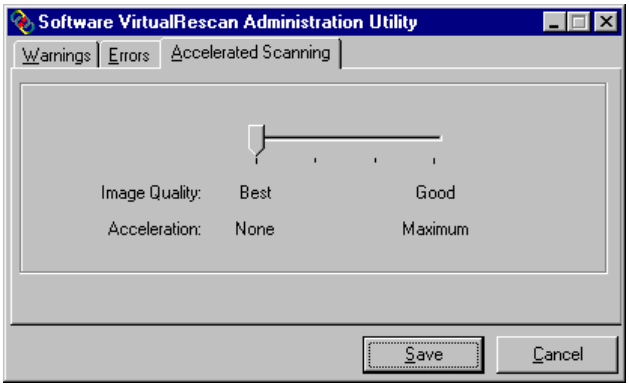


Figure 56. The Accelerated Scanning Tab

To illustrate, suppose you select 300 DPI in your scanning application and enable the first level of Accelerated Scanning in Software VRS. As a result, the image scans at 200 DPI to accelerate scan speed and Software VRS translates it to 300 DPI to achieve the desired resolution. The table below lists the DPI settings that Software VRS uses for Accelerated Scanning.

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

Table 4. Accelerated Scanning DPI Settings (This table is valid for the Fujitsu M3091DC and M3092DC only. Other scanners have different DPI ranges.)

Your DPI Setting as Defined in Your Scan 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

Selecting a Mode

The **Mode** menu options control the conditions under which the Software VRS user interface opens for image inspection and interactive updates.

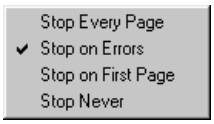


Figure 57. Mode Menu

By selecting the **Mode** command from the **Software VRS** menu, you can request that the Software VRS user interface display under the following conditions:

Stop Every Page
Software VRS dialogs open after each document scans; or with duplex scanning, after each document side scans. This mode can be used for extremely difficult documents that need individual adjustments. This is an unusual condition because Software VRS has the ability to handle a wide range of document types without any adjustments.

Stop on Errors
Software VRS dialogs open only when exception conditions occur.

Stop on First Page
Software VRS dialogs open when you scan the first page of a batch and when exception conditions occur. This mode gives you the ability to set a Software VRS profile or enable a specific feature for all the documents in a batch. The first page in the batch is used as a sample image to adjust Software VRS settings.

Stop Never
Software VRS dialogs remain out of view, even if exception conditions occur.

After installation, the mode is set to Stop on Errors, which opens the **Software VRS Viewer** and **Interactive Properties** dialog box when an exception image is detected during the scanning process. Once selected, a mode stays in effect until changed.

▶ To change the mode

1. From the **Windows** taskbar, right click on the **Software VRS** icon.
2. From the **Software VRS** menu, select **Mode**.
3. From the **Mode** submenu, select an operating mode.

Updating Image Properties

Users can take one of two approaches when using Software VRS to update Image Properties:

- Take advantage of the automatic image enhancement features, or
- Manually adjust the settings for an image or images.

Because Software VRS' default settings have been so well chosen, we suggest that users will get the best and most consistent results through the automatic image enhancement features. However, we have provided the option for manual adjustment for more expert users. These instructions are indicated by the **Power Users** icon.

When Does Software VRS Come into Play?

While scanning, the **Software VRS Interactive Properties** dialog box and the **Software VRS Viewer** open under the following circumstances:

- Automatically
  - ✓ When Software VRS intercepts an exception image for which the response is defined as **Interactive**. See "Software VRS Administration Utility" on page 47.
  - ✓ As defined by the active operating mode. See "Selecting a Mode" on page 58.
- Manually
  - ✓ When you select the **Preview** feature. See "Previewing Images" on page 86.
  - ✓ When you select the **VRS** button from the Software VRS Auto Resolve Manager. See "Using the Auto Resolve Manager" on page 54.

In either case, the **Software VRS Viewer** and the **Software VRS Interactive Properties** dialog boxes open together, as shown in Figure 58. You can use the **Software VRS Interactive Properties** dialog box to apply attribute changes to the image in the Software VRS Viewer.

For more information, see the next section, "Using the Software VRS Viewer", as well as the section "Using the Software VRS Interactive Properties Dialog Box" on page 61.

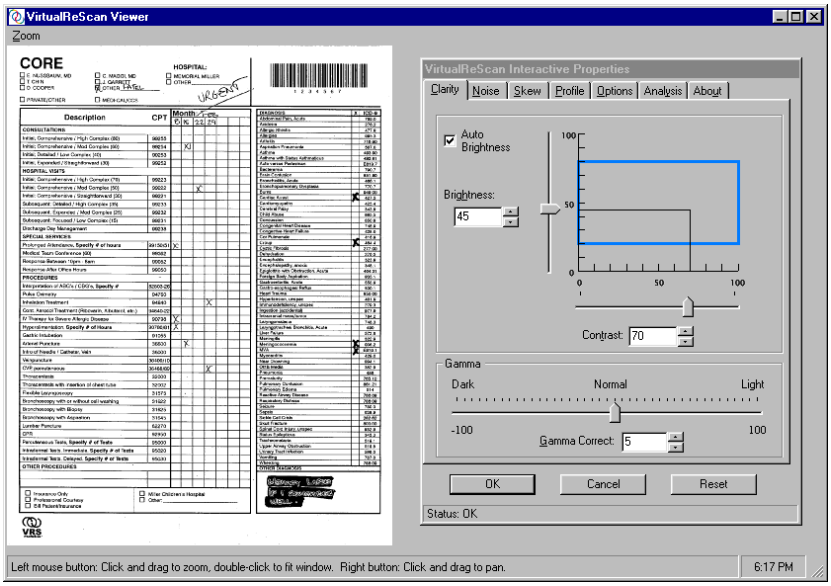


Figure 58. Software VRS Viewer with Software VRS Interactive Properties Dialog Box

Using the Software VRS Viewer

The Software VRS Viewer displays scanned images for your inspection. The purpose of the Viewer is to show you what an image looks like when it scans, and to refresh the image as you apply property changes.

The Software VRS Viewer includes a **Zoom** menu with a range of image magnification levels.

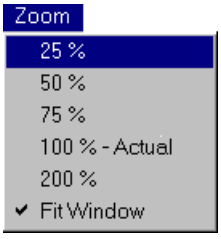


Figure 59. Software VRS Viewer Zoom Menu

Using the Zoom Menu to Adjust the View

From the **Zoom** menu, you can select a setting to magnify or reduce the image in the Viewer. Using the **Fit Window** setting, you can view the entire image in the Software VRS Viewer.

Using Mouse Buttons to Adjust the View

In the Software VRS Viewer, you can 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 a box to outline the section you want to magnify.
  - Restore the image to the standard view by double clicking the image.
- Using the right mouse button, you can move (or pan) the image position in the Software VRS Viewer.

Using the Software VRS Interactive Properties Dialog Box

The **Software VRS Interactive Properties** dialog box consists of seven tabs, including three with options for dynamically adjusting image properties as you scan. The tabs are shown in Figure 60.

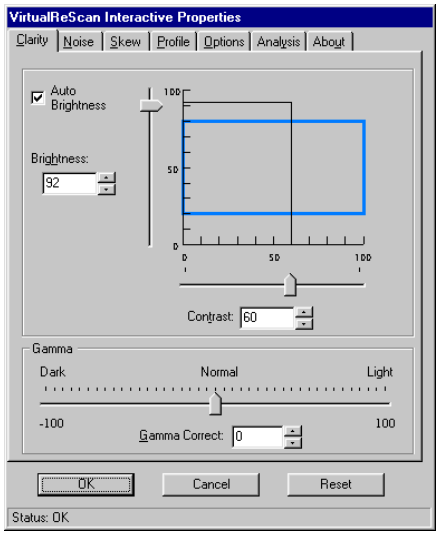


Figure 60. Software VRS Interactive Properties Dialog Box

When the dialog box opens for an exception condition, the status line lists the specific cause for the warning or error. Otherwise, you see **Status OK** on the status line. The dialog box opens to the last tab used.

Software VRS Interactive Properties Dialog Box Tabs

The **Software VRS Interactive Properties** dialog box consists of the following tabs:

Clarity

This tab consists of settings for brightness, contrast, and gamma correction. Use this tab also to enable or disable Automatic Brightness. For details, see the section "Using the Clarity Tab" on page 64.

Noise

This tab consists of settings for applying character thinning/thickening (Line Filter) or to remove unwanted speckling from an image. For details, see the section "Using the Noise Tab" on page 74.

Skew

This tab contains controls to straighten (deskew) an image. In addition, use this tab to enable or disable **Automatic Deskew**, enable an **Image Crop** option, or enable **Edge Cleanup**. Settings on the **Skew** tab apply only to the current image in the **Software VRS Viewer** window. For details, see the section "Using the Skew Tab" on page 76.

Note **Image Crop** and **Edge Cleanup** are only available for scanners that produce black borders around the images.

Profile

Use this tab to create and manage image property profiles. A profile consists of user-defined settings from the **Clarity**, **Noise**, **Skew**, and **Options** tabs in the **Software VRS Interactive Properties** dialog box. For details, see the section "Using the Profile Tab" on page 80.

Options

Use this tab to activate optional features specific to your scanner. For details, see the section "Using the Options Tab" on page 84.

Analysis

Use this tab to view a summary of the property settings for the most recently scanned image. For details, see the section "Using the Analysis Tab" on page 85.

About

Use this tab to view information about your Software VRS version, as well as the street address, telephone and fax numbers, web site address, and e-mail address for Kofax Image Products. Additionally, the Software VRS Online button gives you direct access to the Kofax Image Products web site, www.kofax.com , which offers product information and instructions for downloading Software VRS product updates. For details, see the section "Using the About Tab" on page 86.

Software VRS Interactive Properties Dialog Box Buttons

The following buttons are available when you use the **Software VRS Interactive Properties** dialog box. These instructions apply to the entire set of dialog box tabs, including the tab that is active. When Software VRS restarts, the dialog box is reset to the settings in the last selected profile.

Note The buttons on this dialog box act according to the circumstances in which the **Software VRS Interactive Properties** dialog box was launched. See the explanations below.

OK

Use this button to transmit the current settings to your scanning application. If the **Software VRS Interactive Properties** dialog box opened as a result of an **exception**, the settings will only apply to the image in question. If the **Interactive Properties** dialog box appeared as the result of a "**Stop on First Page**" mode or was opened with the **Preview** option of the VRS menu, then the changes apply to subsequent scans or batches.

Cancel

Use this button in **Preview** to close the dialog without applying any changes. If an exception is detected when scanning, use this button to return an error (without the error image itself) to the scanning application. In addition, the batch scan will be stopped.

Reset

Undoes any changes and resets all settings to their original value.

Using the Clarity Tab

This section describes the **Clarity** tab of the **Interactive Properties** dialog box.

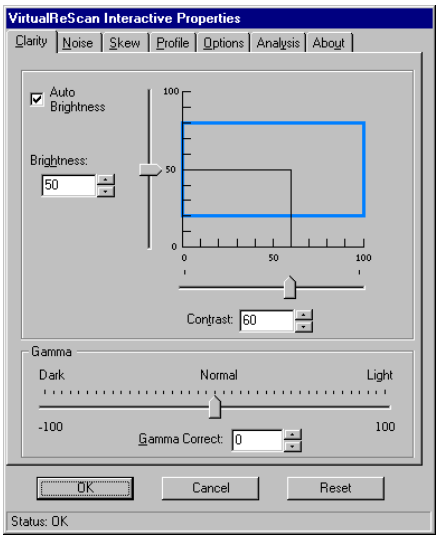


Figure 61. Clarity Tab

Automatic Image Enhancement

As stated previously, Software VRS has the ability to monitor images, detect poor image quality, and perform automatic image enhancements that greatly reduce image quality and recognition errors if the following options are selected:

Brightness and Contrast

When the **Auto Brightness** check box is selected as shown in Figure 62, Software VRS automatically assigns optimal values for brightness and contrast.

Figure 62. Auto Brightness Check Box

Note The Auto Brightness feature is not available when you scan images in color. It becomes available in grayscale and black and white.

Gamma and Gamma Correct

Gamma should be considered as a scanner calibration and should be kept on the default value.

Contrast, Brightness, and Gamma Adjustments in VRS

Every scanned image has two basic parts: the part you want and the part you don't want. One of the major tasks of any image processing software is to separate these two entities so that what you want shines through. Software VRS excels at this task, but you are probably wondering why. Software VRS takes advantage of two different technologies to achieve this—simple thresholding and edge detection.

Behind the Scenes

What exactly are brightness, contrast, and gamma in Software VRS?

Basically, when an image has a high brightness, it seems to give off more light. It's like looking at a photograph under a 45 watt bulb, then looking at it using a 75 watt bulb. The photograph will seem "brighter" under the 75 watt bulb. In the same way, moving the Brightness slider up will increase the amount of light in the image. Moving it down will decrease the amount of light.

Contrast is the amount of difference between the lightest and darkest areas on an image. No matter what bulb you use, the ratio of light to dark in the photograph stays the same. And when you increase the contrast on a totally black and white image (binary image), the white parts become whiter and the black parts become blacker.

A gamma value is a way to manually "sync up" the image you see on the screen with what you are supposed to see. In other words, sometimes output devices (monitors, televisions, etc.) don't produce the same image as the input devices (the scanner, for example) tell them to. In Software VRS, moving the gamma slider to the right will remove pixels from the entire image, which will create an overall appearance of brightening the image. Moving the slider to the left will do the opposite—adding pixels to make the overall image appear more dark, or dense.

Software VRS handles this gamma adjustment automatically for you, so even though the gamma correction slider is available, you won't need it to adjust images.

Gamma should be considered as a scanner calibration and should be kept on the default value.

Now let's put these image components to use in creating exceptional images.

Divide and Conquer

In simple thresholding, a grayscale image (256 levels of gray) is converted to a binary image (two levels: black and white). This is done by first setting a threshold level, which acts like a dividing line. Everything (all the pixels) above that number (a.k.a. level of gray) becomes white and everything below that number becomes black. Black pixels are assigned a value of 1, and white pixels are assigned a value of 0. Because the threshold level influences the brightness of the resulting image, we also refer to the threshold level as the brightness level. So in Software VRS, the **Brightness** slider on its own acts as a simple threshold level.

Simple Thresholding

Simple thresholding is fine for black text on white paper, but it is tricky when you have a combination of dark and light text and lines, and dark and light background surfaces on one page. A good example of this is the CORE document in the Software VRS demonstration documents. Figure 63 shows the original document in color.

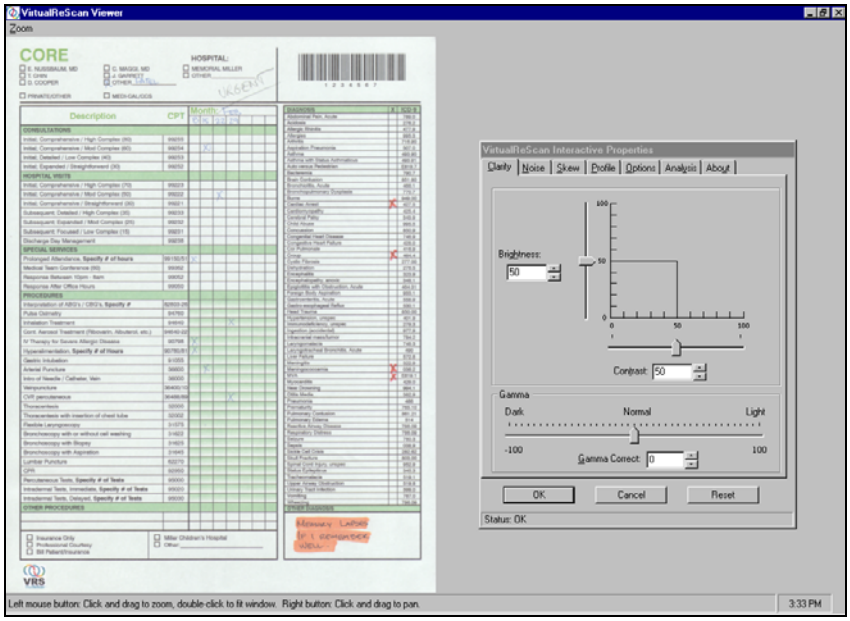


Figure 63. Color scan of original document

A color or 24-bit image is an exact representation of how the original document looks, much like a photograph of the original. A 24-bit image can contain more than 16 million different colors and is capable of showing all the shades, as well as the darkest and faintest elements of a document. We could call the 24-bit image the origin of all images, because you can always convert a color image into a grayscale or black and white image, but not vice versa.

Like the color image, an 8-bit grayscale or 256-level grayscale image also looks like a photographic representation of the original, but without the color. Because it can display up to 256 gray levels, it is excellent for representing documents containing different shades of text. Black and white document scanners capture the documents in 8-bit grayscale, but convert these images to single bit or pure black and white images before they leave the machine.

For the purposes of this discussion, we have scanned the CORE document as a Black and White image at 200 DPI. If we first set the **Contrast** value to 0, then set the **Brightness** value to 20 (remember that setting the Contrast to 0 is basically like using SVRS as a simple thresholding device), the faint text on the top of the page is visible, but the text behind the highlighter is unreadable, as shown in Figure 64.

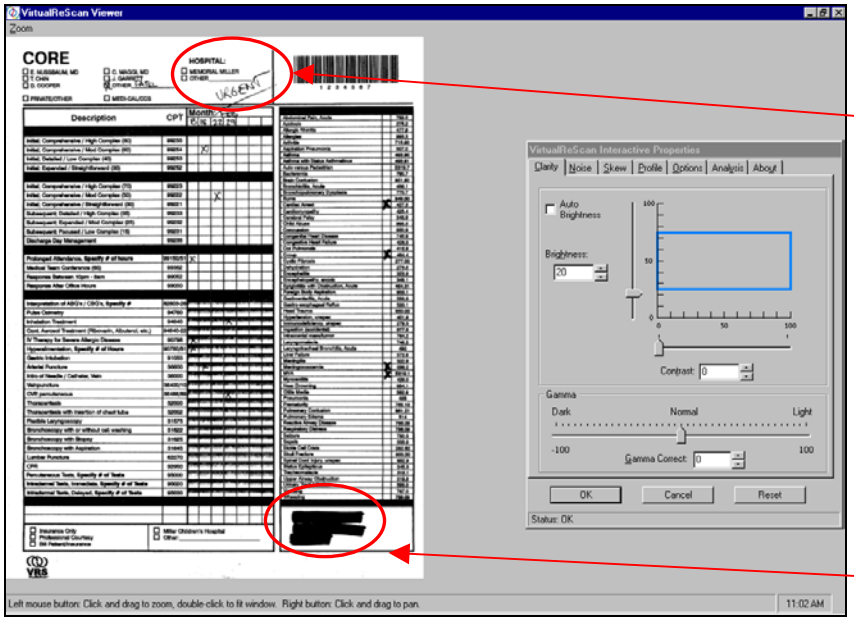


Figure 64. Brightness with a low setting

With a high Brightness setting, let's say 45, the highlighted text appears, but the faint text becomes unreadable. This is shown in Figure 65.

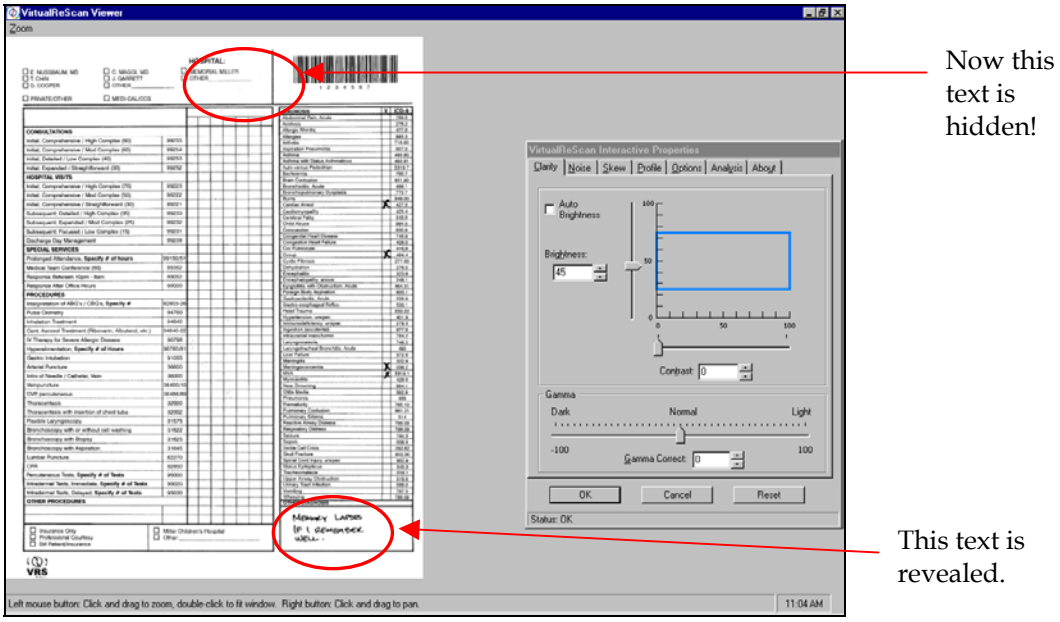


Figure 65. Brightness with a high setting

It becomes apparent that these kinds of situations cannot be solved with simple thresholding. They need a technology that detects objects on a page—both faint and dark—and sets the brightness level dynamically for each of these objects. That is what we call edge detection.

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 (for instance 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. And 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. Let's look at the CORE sample document with the lowest Contrast level—zero. And to truly see what Contrast does on its own, we'll also set the brightness value to zero.

When it is necessary, as in the case of the CORE document, Brightness and Contrast take turns to output the best image. Contrast (Edge Detection) takes the primary role in dealing with anything edgy, while the Brightness function deals with everything else.

If you slide the **Contrast** slider to a level around 50, and set the **Brightness** to 29, you can see how the **Brightness** slider does not affect the edgy objects, leaving that completely to the edge detector. The only things that are affected by the **Brightness** slider are the non-edgy objects, typically large surfaces of the same gray level (the inside of a highlighter, the background of a document, a shading on the document etc., the inside of very big text or logos, etc.) This is shown in Figure 66.

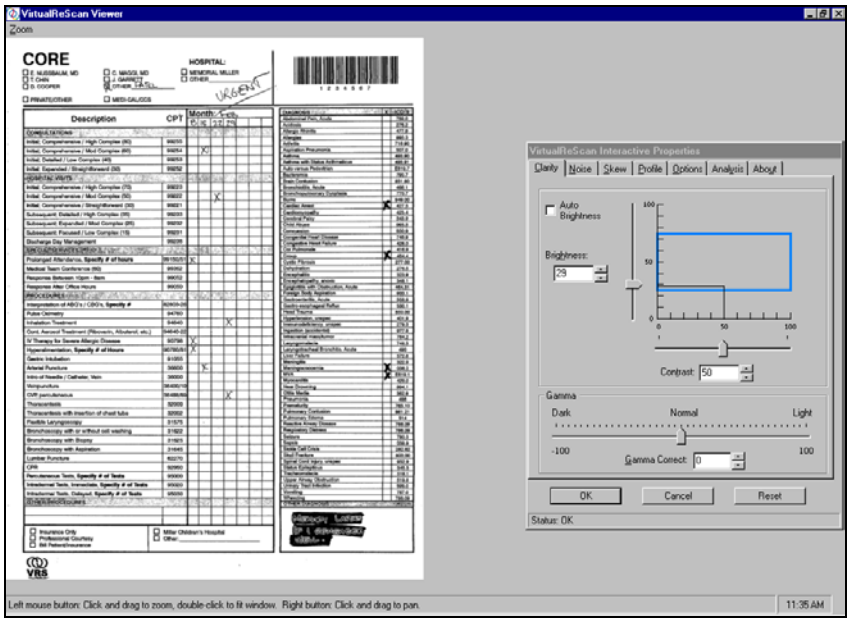


Figure 66. Contrast set to 50, Brightness set to 29

Then when the **Contrast** slider is on level 50, and you vary the Brightness level, it does not influence the text anymore, as shown in Figure 67, it only makes the large surfaces white or black. That's why there's a tendency to relate the contrast slider with the foreground or text and the brightness slider with the background because the higher the contrast, the clearer your text will be, and the higher the brightness the more the background will be cleared up. The lower the contrast, the less your text will be readable; the lower the brightness the more the background will turn dark.

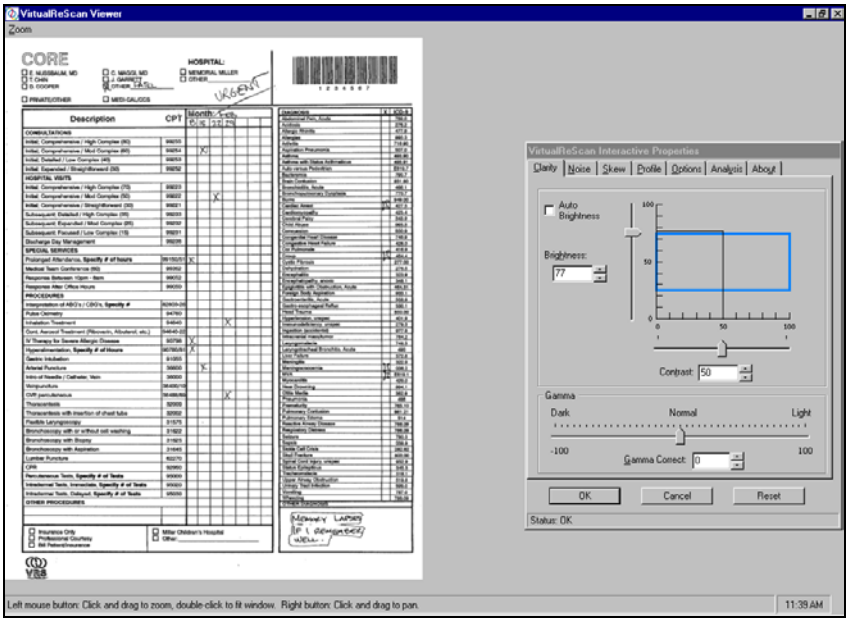


Figure 67. Contrast set to 50, Brightness set to 77

Don't Touch That Dial

Although this entire discussion is about how to make the correct adjustments to the Brightness and Contrast settings for Software VRS, it bears repeating that the default values for Brightness and Contrast are going to be your optimum scan in 90% or more of the scans you do.

If we simply scan the CORE document without adjusting the settings, we get great results, as shown in Figure 68.

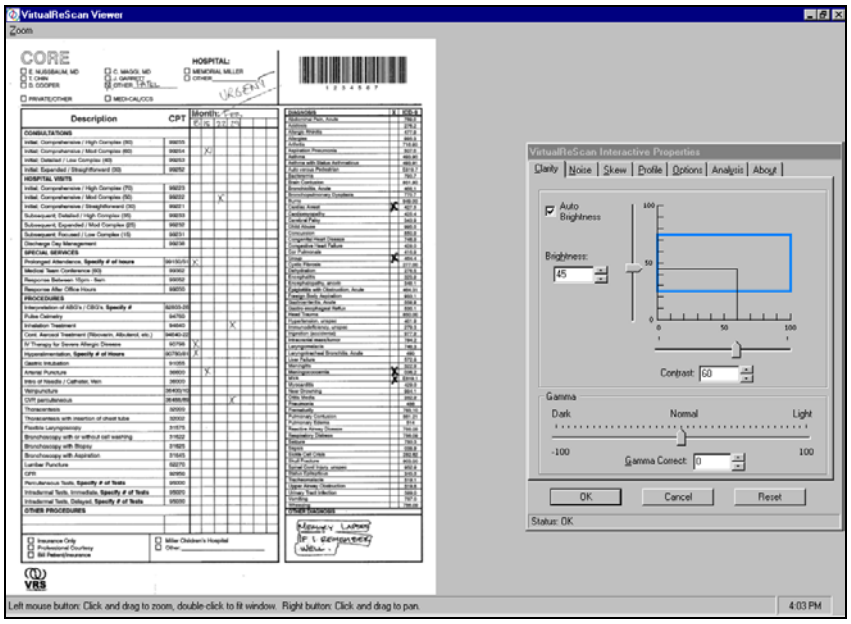


Figure 68. Document scanned with default settings—perfect!

In other words, don't touch that dial (unless it's absolutely necessary)!

However, If You Choose to Accept This Mission…

As stated previously, Software VRS provides the option to manually adjust the settings for an image or images. There are several features that will assist users in this task as described below:

Brightness and Contrast Visual Markers

The Clarity tab includes visual markers (shown in Figure 69) to assist you in identifying the optimal range for Brightness and Contrast.

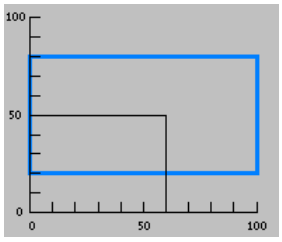


Figure 69. Black Lines and Blue Rectangle

Black Lines

The black lines represent the current values for Brightness and Contrast. When you have Auto Brightness enabled, the black lines (along with the slider) are automatically adjusted to reflect the automatic brightness adjustment.

Blue Rectangle

This box shows you the region of acceptable Brightness and Contrast values. The box is centered around the 50-50 baseline settings for Brightness and Contrast, with the borders representing the Brightness and Contrast threshold values from the **Software VRS 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 generate warnings.

▶ To change the Clarity settings

Note Changes made to this tab are handled differently depending on when the **Software VRS Interactive Properties** dialog box was launched. If the dialog box opened as the result of an exception, the changes will apply to the image in question only. If the dialog box opened because you selected **Preview** or **Stop on First Page** mode, the changes will apply to all subsequent scans. When Software VRS restarts, the tab is reset to the settings in the last selected profile.

1. From the **Software VRS Interactive Properties** dialog box, select the **Clarity** tab.
   a. To adjust the contrast and brightness at the same time, click within the boundaries of the brightness/contrast scale, then insert the pointer so that the intersection of the crosshairs represents the desired values for brightness and contrast.
   b. To adjust the contrast and brightness separately, skip to the next step.
2. In the **Brightness** text box, Software VRS displays the current brightness setting. To change the setting, do one of the following:
   - Click the arrows to increase or decrease the brightness level.
   - Click in the **Brightness** text box and type in a value.
   - Use the **Brightness** slider control to select a value.
3. In the **Contrast** text box, Software VRS displays the current contrast setting. To change the setting, do one of the following:
   - Click the arrows to increase or decrease the contrast level.
   - Click in the **Contrast** text box and type in a value.
   - Use the **Contrast** slider control to select a value.
4. In the **Gamma** text box, Software 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 to increase or decrease the gamma level.
   - Click in the **Gamma** text box and type in a value.
   - Use the **Gamma** slider control to select a value.

Note As soon as you change the brightness value, the **Auto Brightness** option is automatically disabled. To enable it again, check the **Auto Brightness** option again and Software VRS will re-calculate and re-apply the brightness level automatically.

Using the Noise Tab

Noise in an image consists of pixels accidentally and randomly added to the image during image processing. The level of shading for these pixels is also random and can vary quite a bit. Unfortunately, images attained through even the most sophisticated sensors can still be contaminated by a variety of noise sources and have to be corrected.

The **Noise** tab gives you a set of filters that enhance image quality and remove excessive speckling. As you adjust the Noise settings, the effects are applied to the image in the **Software VRS Viewer** window. You can fine-tune the settings until the image appearance meets your quality standards.

The **Software VRS Noise** tab settings are intended for black and white scanning and have no effect on grayscale scanning. The **Enhancement Filter** option is not yet available in this version of Software VRS; the drop-down box is reserved for future use.

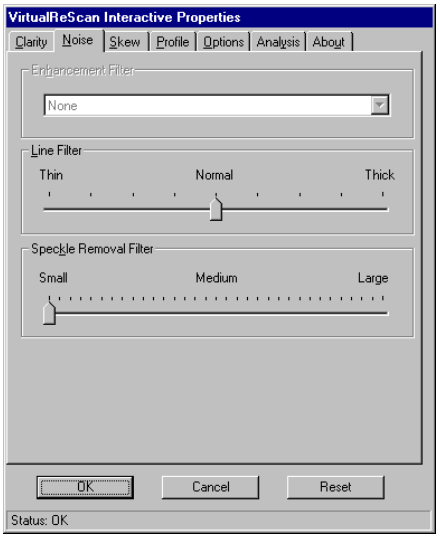


Figure 70. Noise Tab

Note Changes made to this tab are handled differently depending on when the **Software VRS Interactive Properties** dialog box was launched. If the dialog box opened as the result of an exception, the changes will apply to the image in question only. If the dialog box opened because you selected **Preview** or **Stop on First Page** mode, the changes will apply to all subsequent scans. When Software VRS restarts, the tab is reset to the settings in the last selected profile.

Rules for 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 backside or by background patterns such as on a boarding pass, decrease the contrast. If text starts to disappear as well, compensate by lowering the **Brightness** slider.
- If the noise is produced by shaded backgrounds, gradients, or dark-colored paper, increase the brightness.
- If you have only 1 or 2 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.

▶ To change the Noise settings

1. From the **Interactive Properties** dialog box, select the **Noise** tab.
2. Use the **Line Filter** slider to select the amount of thinning/thickening to apply to image elements.
   a. Move the slider toward the Thin setting for image elements that are ballooned or blended together.
   b. Move the slider toward the Thick setting for image elements that are too thin or too light.
3. Use the **Speckle Removal Filter** slider to remove unwanted black dots.
   a. Move the slider toward Small if removal of small dots will achieve the desired image quality.
   b. Move the slider toward Medium if removal of small and medium dots will achieve the desired image quality.
   c. Move the slider toward Large if removal of small, medium, and large dots will achieve the desired image quality.

Note Moving the slider too far to the right may interfere with text recognition.

Using the Skew Tab

Using the **Skew** tab settings, users can straighten images, crop images, and perform edge cleanup. Images can be rotated up to 360 degrees clockwise or counter-clockwise using the movable angle control arm, or they can be automatically deskewed by selecting the **Deskew** check box. If necessary, you can fine-tune the rotation with the **Fine Angle Adjustment** slider, or enter an amount in the **Angle** box. When the Angle box lists 0.00, the image is displayed as it was originally scanned.

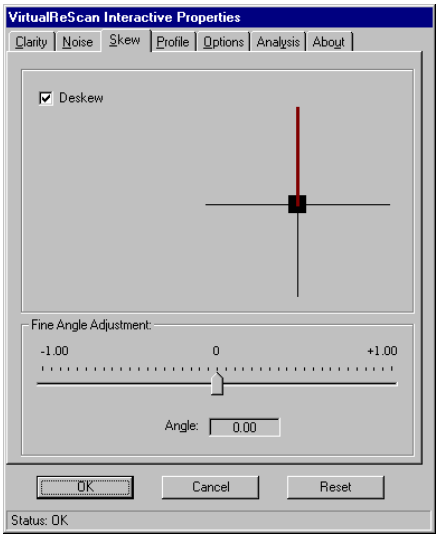


Figure 71. Skew Tab

▶ To change the Skew tab settings

Note Changes made to this tab are handled depending on when the **Software VRS Interactive Properties** dialog box was launched. If the dialog box opened as the result of an exception, the changes will apply to the image in question only. If the dialog box opened because you selected **Preview** or **Stop on First Page** mode, the changes will apply to all subsequent scans. When Software VRS restarts, the tab is reset to the settings in the last selected profile.

1. From the **Software VRS Interactive Properties** dialog box select the **Skew** tab.
2. Adjust the movable angle control arm until the image is straight:
   a. Click anywhere on the grid to position the angle control arm.

   - or -

   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.
3. Using the **Fine Angle Adjustment** slider, you can fine-tune the deskew angle in single degree, or partial degree, increments, as follows:
   a. By moving the slider all the way to the left, you select a complete one-degree, counter-clockwise angle adjustment.
   b. By moving the slider all the way to the right, you select a complete one-degree, clockwise angle adjustment.
   c. By moving the slider to a position in between the leftmost or rightmost setting, you select an angle shift that is less than a full degree. Each line on the slider scale represents 5 percent of one degree.

When you use a scanner that produces white borders around the scanned images, the deskew correction is calculated based on horizontal and vertical text lines in the image. When using scanners producing black borders around the images, Software VRS switches to using black borders and not the content of the document to determine the skew correction with faster results.

In addition, scanners that produce black borders around the image enable an **Auto Crop** option. Select this 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 character recognition (OCR).

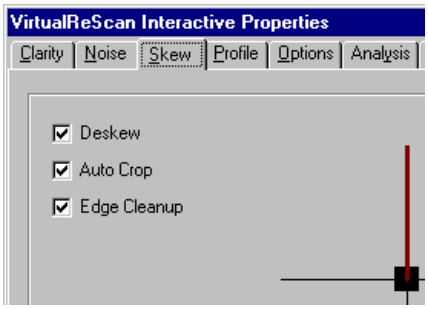
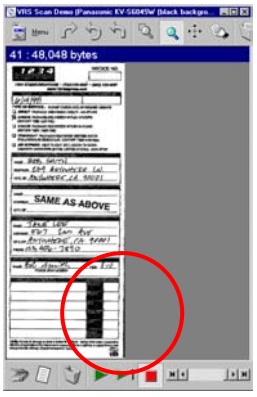


Figure 72.

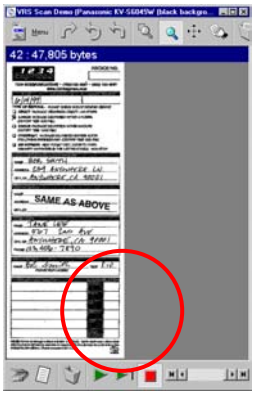
Edge Cleanup activates the Software VRS feature that automatically removes any black borders around the image. It is different from Image Cropping because it does not crop the image to its actual size. Instead it replaces any black pixels in the border around the image with white pixels, preserving the width and length of the image size determined by the Image Crop.

Image from Black Background Scanner without Deskew, Image Cropping, and Edge Cleanup

Deskew Enabled



Auto Crop Enabled



Edge Cleanup Enabled

Note Because Software VRS requires black borders around the document to perform **Image Crop** and **Edge Cleanup**, these features are not available when your scanner produces white borders around the images, or in other words has a white background. Check the certified scanner list on page 7 to verify whether your scanner produces white or black borders around images, or in other words has a white or a black background.

Using the Profile Tab

As we've stated before, Software VRS allows you to scan documents and accurately capture data in the shortest time possible without any adjustments. However, invariably there are going to be documents that will evade even the best imaging software. You can use the **Interactive Properties** dialog box to correct each image, but if you are going to be scanning problematic documents in numbers, the best solution is to create profiles for these kinds of documents.

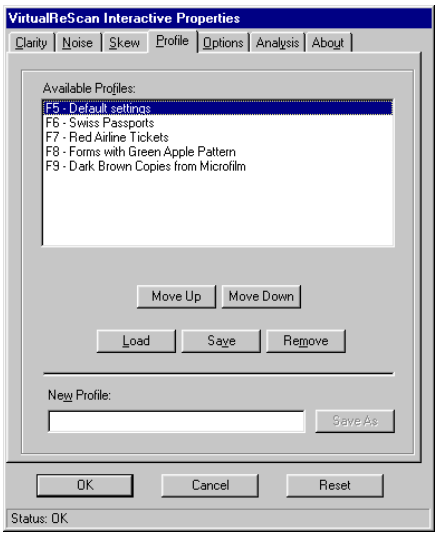


Figure 73. Profile tab

A profile is a combination of settings from the **Clarity**, **Noise**, **Skew**, and **Options** tabs. A profile works like a memorized line of attack for image correction and enhancement. With the exception of the Default profile, which is pre-determined and created when you install Software VRS, profiles are created by the user. However, Software VRS uses the profile *Default settings* unless you define and select another one.

The Profile tab helps you set up and manage Software VRS image property profiles. From the **Profile** tab, you can define, update, load, and remove profiles. You can establish multiple profiles to accommodate different scanning situations. You are not limited as to the number of profiles you can create. However, only the first nine profiles will be assigned a shortcut key, and only the first fifteen profiles will be visible in the **Available Profiles** window without scrolling.

It's recommended that you do not update the Default settings as they can only be restored by reinstalling the software (or by using the Kofax Source Manager utility as explained in Appendix C). In addition, reinstalling Software VRS will overwrite any profiles you have created and/or modified.

Note Changes made to this tab are handled according to when the **Software VRS Interactive Properties** dialog box was launched. If the dialog box opened as the result of an exception, the changes will apply to the image in question only. If the dialog box opened because you selected **Preview** or **Stop on First Page** mode, the changes will apply to all subsequent scans. When Software VRS restarts, the dialog box resets to the last selected profile.

Selecting, Creating, and Deleting Profiles

Use these instructions to select, create, and delete profiles on the **Profile** tab.

▶ To set up a profile

1. Open the **Software VRS Interactive Properties** dialog box and make selections from the **Clarity**, **Noise**, **Skew**, and **Options** tabs.
2. Select the **Profile** tab.
3. In the **New Profile** text box, assign a name to the new profile. Be sure to assign a profile name with alphanumeric characters.
4. Select **Save As**. The new profile name appears in the **Available Profiles** list, and it becomes the active profile.
5. Notice how Software VRS automatically associates a function key to the first 8 profiles. You can change the sequence of the profiles and its associated function key by moving a profile up or down with the **Move Up** and **Move Down** buttons. The function keys are only active when the **Software VRS Interactive Properties** dialog box is active.

Table 5. Invalid Characters for Profile Names

Character	Description	Character	Description
:	Colon	'	Single quotation
;	Semicolon	"	Double quotation
\	Backslash	>	Greater than
/	Slash	<	Less than
|	Pipe	^	Caret
&	Ampersand	.	Period
?	Question mark		

Note Once you have created a profile, the **Cancel** button will not undo the changes to the **Profile** tab. You will need to change the active profile or remove it as described in the following topics.

▶ To change the active profile

1. At the **Software VRS Interactive Properties** dialog box, select the **Profile** tab.
2. From the **Available Profiles** list, select the profile you want to use.
3. Select the **Load** button. (This step is very important; clicking the **OK** button before you click the **Load** button will not change the active profile.)
4. Click the **OK** button.

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

- or -

5. From the **Software VRS Interactive Properties** dialog box, select the **Profile** tab.
6. From the **Available Profiles** list, double click the name of the profile you want to use.

- or -

7 Press the corresponding function key on the PC's keyboard to load a profile.

8 The function keys are only active when the **Software VRS Interactive Properties** dialog box is selected.

- or -

9 From the **Software VRS** menu, select the **Profile** command.

10 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 remove a profile from the Available Profiles list

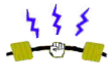
1 From the **Software VRS Interactive Properties** dialog box, select the **Profile** tab.

2 From the **Available Profiles** list, select the profile(s) you want to remove.

3 Click **Remove**. The profile name clears from the **Available Profiles** list.

4 If the deleted profile was the last profile in use, select another profile from the **Available Profiles** list.

Using the Options Tab



When using Software VRS, some of your scanner's features are only available through the Scanner Advanced Settings button on the **Options** tab (Figure 74). However, use the **Scanner Advanced Settings** option with caution. Some features may interfere with the optimal performance of Software VRS. Consult your scanner documentation for more information on available features.

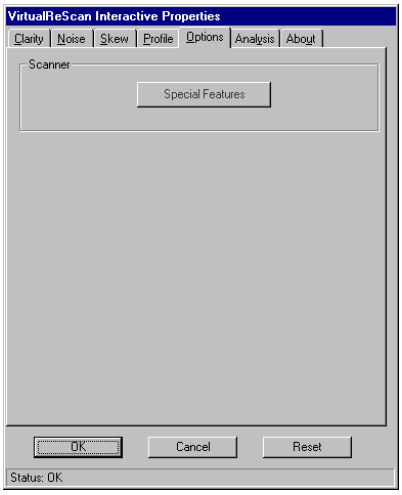


Figure 74. Options Tab

Some of the optional features available may include:

1. Color Drop Out (on Fujitsu 3091DC for example)
2. Lamp Saver Mode
3. Endorser (All Panasonic models and OEMs and Canon DR5080C)
4. Density
5. Emphasis
6. Document Form

Using the Analysis Tab

The **Analysis** tab summarizes the properties for the current image in the Software VRS Viewer at the time Software VRS scans the image. The information on the **Analysis** tab may help you identify proper threshold values for contrast and brightness on the **Software VRS Administration Utility** dialog box, as well as settings for contrast and brightness on the **Clarity** tab. If you enable the **Auto Brightness Adjustment** function from the **Clarity** tab, the brightness value on the **Analysis** tab is automatically put into effect. With the exception of the Speckle Count (the number of pixels that are removed from the image when using the **Speckle Removal** slider in the **Noise** tab), none of the **Analysis** tab information is updated as you apply image property changes. You cannot edit the information on the **Analysis** tab.

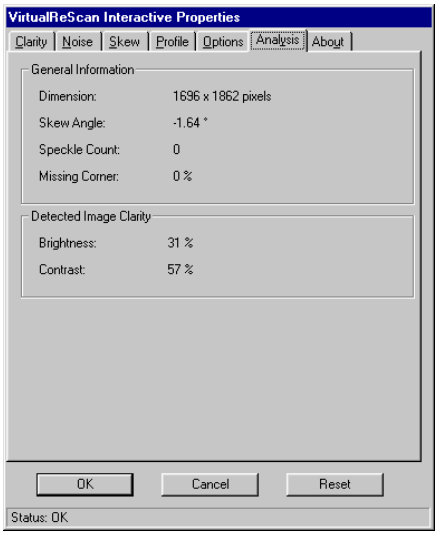


Figure 75. Analysis Tab

Using the About Tab

The **About** tab lists the Software VRS version information, along with the contact information for Kofax Image Products. For direct access to the Internet:

- Click the **VRS Online** button to visit the Software VRS product web site, from which you can download product updates.
- Select www.kofax.com to visit the Kofax Image Products web site.

Figure 76. About Tab

Previewing Images

The preview process gives you an opportunity to test image property settings to meet quality standards. Use the **Preview** feature to test property settings before you scan a batch of documents, or to adjust the settings between batches.

Note The **Preview** feature may function slightly differently if you are using an application that is supported by ISIS or TWAIN. See the end of this section for specific instructions on how to use the Preview function with TWAIN and ISIS applications.

When you select Preview, Software VRS opens the most recently scanned image in the Software VRS Viewer. As you apply property changes from the **Software VRS Interactive Properties** dialog box, the preview image is refreshed so you can evaluate 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.

Note The **Preview** function is available only if a scanned image exists in the Software VRS cache. When you close your scan application or select another scanner source, the Software VRS image cache is cleared.

For information on the Software VRS Viewer window, see the section "Using the Software VRS Viewer" on page 60. For information on updating image properties, see the section "Using the Software VRS Interactive Properties Dialog Box" on page 61.

▶ To preview an image

1. Scan a document that is similar to the document type you plan to use for batch scanning.
2. From the **Software VRS** menu, select **Preview** to display the sample image in the Software VRS Viewer. When you select **Preview**, Software VRS always displays the last image scanned.
3. If desired, use the **Zoom** menu to adjust the magnification level.
4. For more information on the **Zoom** menu, see the section "Using the Software VRS Viewer" on page 60.
5. If necessary, use the **Software VRS Interactive Properties** dialog box to change the image properties.
6. For more information on the **Software VRS Interactive Properties** dialog box, see the section "Using the Software VRS Interactive Properties Dialog Box" on page 61.
7. When you are satisfied with the appearance of the preview image, select the **OK** button in the **Software VRS Interactive Properties** dialog box.

The property settings are saved and put into effect for the next batch of scanned documents. If you expect to use the settings on a regular basis, save them as a profile, so they can be recalled as often as necessary. See the section "Using the Profile Tab" on page 80.

Appendix A: SVRS Certified Scanners

Scanner	Driver Used for SVRS 2.1	Personal or Professional	Black or White Border	Add'l Scanner Memory Required	Interface Certified by SVRS
Bell + Howell 500FB	ISIS	Professional	Black	None	SCSI
Bell + Howell 730DC FB	ISIS	Professional	Black	None	SCSI
Canon DR-3060	ISIS	Professional	Black	None	SCSI
Canon DR-3080C	ISIS	Professional	Black	None	SCSI
Canon DR-4080U	ISIS	Professional	White	32MB	SCSI
Canon DR-5080C	ISIS	Professional	Black	None	SCSI
Canon Canoscan N1220U	TWAIN	Personal	White	None	USB
Canon Canoscan N656U/ N650U	TWAIN	Personal	White	None	USB
Epson GT10000+	ISIS	Professional	White	None	SCSI
Epson GT30000	ISIS	Professional	White	None	SCSI
Epson Perfection 1640SU Office Scanner with ADF	TWAIN	Personal	White	None	SCSI, USB
Fujitsu *fi*-4110CU	ISIS	Professional	White	None	USB
Fujitsu *fi*-4120C	ISIS	Professional	White	None	SCSI, USB
Fujitsu *fi*-4220C	ISIS	Professional	White	None	SCSI, USB
Fujitsu *fi*-4340C	ISIS	Professional	Black	None	SCSI
Fujitsu *fi*-4640S	ISIS	Professional	Black	None	SCSI
Fujitsu *fi*-4750C	ISIS	Professional	Black	None	SCSI

cont'd on next page

▪ In the United States, the Fujitsu M3091DC and Fujitsu M3092DC are referred to as the Fujitsu ScanPartner® 3091DC and Fujitsu ScanPartner® 3092DC.

Scanner	Driver Used for SVRS 2.1	Personal or Professional	Black or White Border	Add'l Scanner Memory Required	Interface Certified by SVRS
Fujitsu M3091DC▫	ISIS	Professional	White	None	SCSI
Fujitsu M3092DC▫	ISIS	Professional	White	None	SCSI
Fujitsu M3093DG	ISIS	Professional	White	None	SCSI
Fujitsu M3093GX	ISIS	Professional	White	None	SCSI
Fujitsu ScanPartner 15C	TWAIN	Professional	White	None	SCSI
Fujitsu ScanPartner 93GX	ISIS	Professional	White	None	SCSI
Fujitsu ScanPartner 620C	TWAIN	Professional	White	None	SCSI
HP ScanJet 6250c	ISIS	Personal	White	None	SCSI
HP ScanJet 6300c	ISIS	Personal	White	None	SCSI
HP ScanJet 6350c	ISIS	Personal	White	None	SCSI
HP Scanjet 7400c	TWAIN	Personal	White	None	SCSI,USB
HP Scanjet 7450c	TWAIN	Personal	White	None	SCSI,USB
HP Scanjet 7490c	TWAIN	Personal	White	None	SCSI,USB
Kodak DS1500	ISIS	Professional	Black	32MB	SCSI
Kodak DS2500	ISIS	Professional	Black	32MB	SCSI
Kodak i50	ISIS	Professional	White	None	SCSI
Kodak i60	ISIS	Professional	White	None	SCSI
Panasonic KV-S2065W	ISIS	Professional	Black	64MB	SCSI
Panasonic KV-S6040W *	ISIS	Professional	White	32MB	SCSI
Panasonic KV-S6045W *	ISIS	Professional	White	32MB	SCSI
Panasonic KV-S6050W	ISIS	Professional	Black	64MB	SCSI
Panasonic KV-S6055W	ISIS	Professional	Black	64MB	SCSI

cont'd on next page

* Black border kit can be ordered.

Ricoh IS01	ISIS	Professional	Black	None	SCSI
Ricoh IS-330	ISIS	Professional	White	None	SCSI
Visioneer 9650 USB	ISIS	Personal	White	None	USB

Appendix B: Kofax Product Installation Guide

It is possible to install Software VRS in conjunction with Kofax products other than ImageControls. We do recommend a certain order to the installation, however. Following is a description of the products and when they should be installed for the optimum SVRS performance.

If you are installing Ascent Capture 5 as your scanning application, and you have no other Kofax products installed on your machine, install in this order:

- Ascent Capture (Ascent Capture 5.0 includes AIPE and AHRT)
- ImageControls Toolkit (Optional) (Only toolkit, not other runtimes or driver from the toolkit CD)
- Software VRS

Note Software VRS is only compatible with versions of Ascent 4.x and above.

If you are installing an ImageControls-based application and have no other Kofax products installed on your machine, install in this order:

- ImageControls-based Application
- Adrenaline Image Processing Engine
- Software VRS

or

- ImageControls-based Application
- Adrenaline Hardware Runtime
- Software VRS

If you are installing AIPE and you have no other Kofax products installed on your machine, install in this order:

- Adrenaline Image Processing Engine
- Software VRS

You may install Software VRS on any system which contains an installed version of a Kofax product, except for those with installations of Hardware VRS. Software VRS cannot be installed on a system with Hardware VRS.

Warning Never install Software VRS with Hardware VRS!

Appendix C: Configuring Non-Certified Scanners

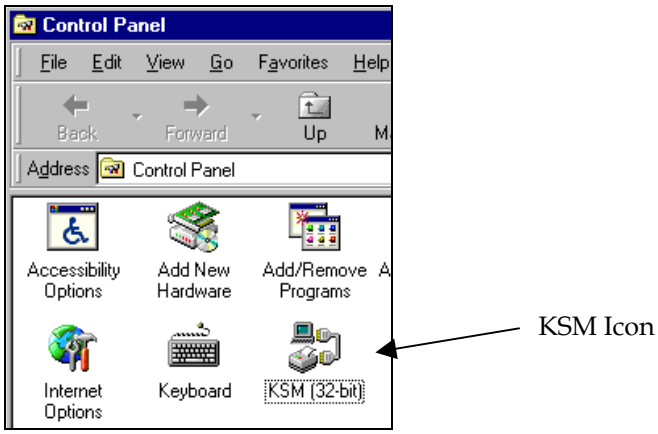
In the event that you want to use Software VRS with a different scanner, you will need to do one of the following in order for the scanner and software to work properly together:

- Uninstall then reinstall Software VRS, following the same procedure of your initial installation, or
- Use the Kofax Source Manager from your Windows Control Panel to identify the new scanner and make that source available for Software VRS. You do that by creating a source device in KSM.

▶ To create a source device using the Kofax Source Manager (KSM):

1 Select **Start** | **Control Panel**.

2 Open the **Kofax Source Manager** (icon shown below).



3 An initial **Kofax Source Manager** (KSM) dialog box displays.

4 Select **Next**. Another KSM dialog box displays, similar to the following:

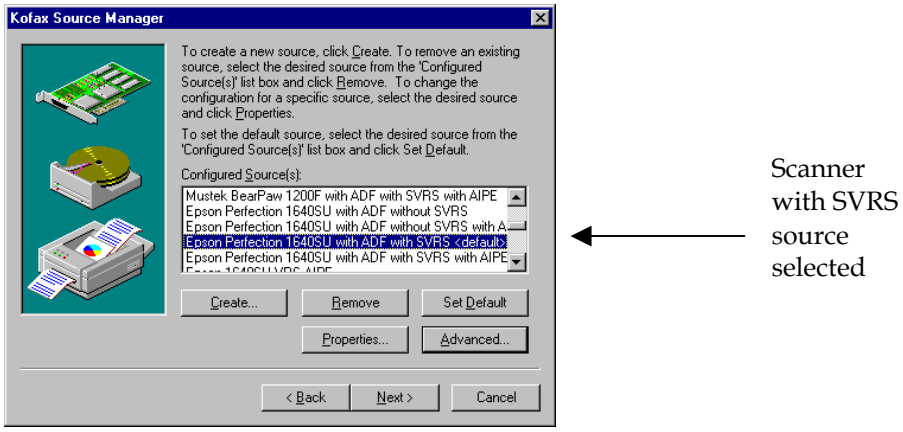


Figure 77. Kofax Source Manager (KSM) Dialog Box

6 Select **Create**. A dialog box opens, similar to the following:

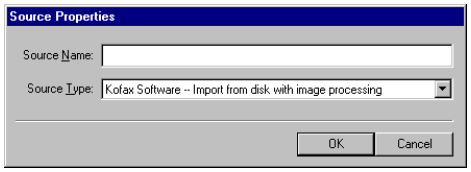


Figure 78. Source Properties Dialog Box

7 Enter and select the following:

a Enter a **Source Name**. The source name is simply how you're going to refer to this source when you select it in Software VRS. The Source Name can be anything you want. An example source name might be the scanner name plus an indication of the source type as in "Scanner 234 with Software VRS TWAIN scanning."

b Select a **Source Type**. The selections for Source Type depend on the hardware and software engines configured on your system. Example source types are shown in Figure 79.

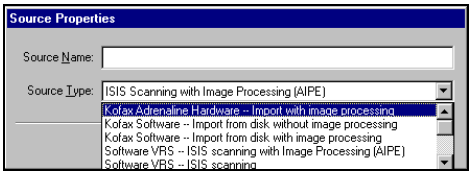


Figure 79. Source Type List

8 Select **OK**. For ISIS and TWAIN scanner source types, a dialog box displays, similar to Figure 80.

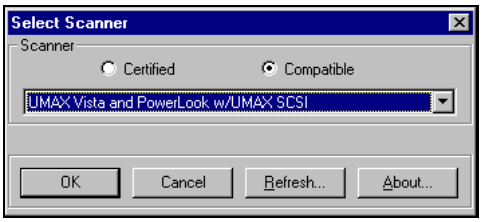


Figure 80. Select Scanner Dialog Box

9 Select the **Compatible** device option.

10 Select your scanner from the drop down list. If your scanner does not appear on the drop down list, however, click the **Refresh** button on the **Select Scanner** dialog box, then select **OK**.

11 Select **OK**. The initial **Kofax Source Manager** dialog box, as shown in Figure 77, redisplays with the new source added to the list of Configured Sources.

12 Select **Nex**t to continue.

13 Select **Finish**.

▶ To change the source

1 Follow steps 1-3 for creating a source.

2 At the **Kofax Source Manager** (KSM) dialog box, select the source, click the **Set Default** button, then click **Next**.

3 Click **Finish**. The source will be set as the default SVRS source. What this means is that whenever you select the Kofax scanner source from any application, this source is the one that will be used.

Appendix D: How to Change the SVRS Scanner in TWAIN and ISIS Applications

You can easily define which of your installed, certified scanners will be the default scanner by using the Kofax Source Manager (KSM). The Kofax Source Manager (KSM) tool is installed with Software VRS onto your Control Panel. Four scanner sources are automatically created when you install Software VRS. Simply select one of the sources ***with SVRS*** in KSM to make it available for use in a TWAIN or ISIS application.

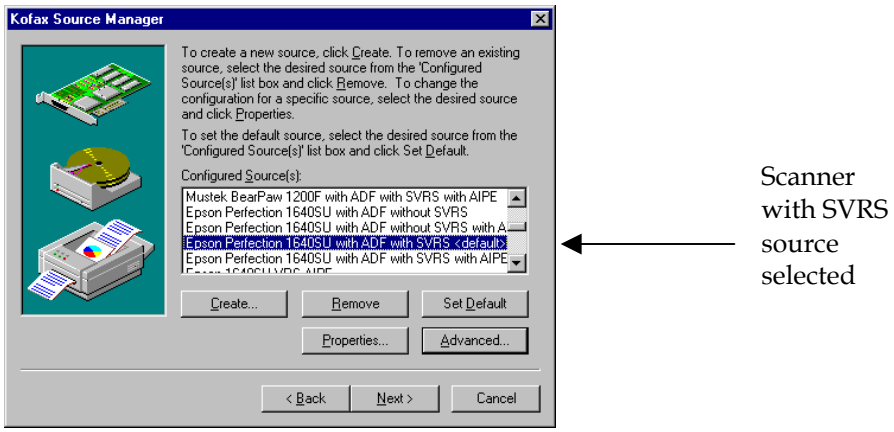


Figure 81. Kofax Source Manager (KSM) Dialog Box

▶ To change the source

1. At the **Kofax Source Manager** (KSM) dialog box, select the source, click the **Set Default** button, then click **Next**.
2. Click **Finish**. The source will be set as the default Kofax SVRS source. What this means is that whenever you select the Kofax TWAIN or Kofax ISIS scanner source from any application, this scanner is the one that will be used.

Appendix E: Kofax Technical Support

For assistance with Kofax products, contact your authorized Kofax dealer, or contact the Kofax Technical Support staff at the numbers below. Please have the following information available:

- Software VRS version
- Scanner model number
- Type of hardware, including your PC and other peripherals
- Operating system
- Description of how the problem occurred, including error message text

Headquarters

Kofax Image Products
16245 Laguna Canyon Road
Irvine, CA 92618-3603

(949) 727-1733 (voice)
(949) 727-3923 (fax)

www.kofax.com (home page)
support_kfx@kofax.com (e-mail)

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Heide 17
B - 1780 Wemmel / Brussels
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Phone: 32 (2) 456.17.20
Fax: 32 (2) 456.17.21

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