

Kofax VRS 5.x (Elite) Auto Profile

Application Note

Date	December 05, 2012
Applies To	Kofax VRS 5.0 (Elite) Kofax VRS 5.1 (Elite)
Summary	This application note provides a detailed overview of the Kofax VRS 5.x (Elite) Auto Profile feature.
Revision	1.1

Kofax VRS 5.x (Elite) Auto Profile

This application note will provide an overview of how to use the Kofax VRS 5.0 (Elite) and VRS 5.1 (Elite) product's Auto Profile feature to train VRS to recognize a set of documents and assign a VRS profile to each document on the fly at scan time.

This application note covers configuring the Auto Profile feature for a Kofax VRS 5.x (Elite) Standalone installation and covers the following aspects of Auto Profile configuration: training VRS 5.x (Elite) to recognize form types and creating a new VRS profile for each form.

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What is Auto Profile

Auto Profile is a technology that allows the user to scan a variety of documents in a single batch and automatically apply a separate VRS profile for each document/form type. Auto Profile is used to configure VRS profiles based on specific form types. VRS classifies various documents and learns the desired profile settings based on the user settings. VRS will automatically apply these settings each time a similar classified document is scanned. Candidates for Auto Profile are fixed forms and documents that have distinguishable and sufficient structure.

Considerations for Duplex Scanning

Scanning in duplex may cause some confusion with the Auto Profile feature. In duplex, the classification results of the front side are used to determine the VRS profile for processing both the front and back side of the document. To use Auto Profile effectively, it has to see a recognizable form scanned as a front side of an image. All pages have to be put in the feeder with the form side as the front side.

Considerations for Unstructured Documents

The Auto Profile classifier is not able to learn documents that contain little or no structure. As an example, documents such as the back of a blank check do not contain enough structure to be learned. Documents that do not contain enough structure are not flagged and errors will not occur when attempting to train them. For images with little or no structure it is recommended to verify the confidence level of the image while in the VRS Interactive Viewer. The confidence level will display in the bottom Toolbar of the VRS Interactive Viewer. The lower the confidence level, the less likely the document was trained and a profile will apply. In addition to viewing the confidence level in the VRS Interactive Viewer, [enabling logging for Auto Profile](#) will display the confidence level. During scanning, the [Auto Profile Confidence Warning](#) can be enabled to flag documents where the confidence value is too low.

Profile and Training Data

The Auto Profile training and user data consists of a database and the training images. Both the database and training images are stored in a sub folder named APC, which is in the Profiles folder.

VRS saves the Auto Profile information to the following directories:

Windows 7 VRS Standalone

C:\Program Files (x86)\Kofax\Imgctl\bin\Profiles\APC

Windows 7 VRS with Kofax Capture

C:\Program Data\Kofax\Capture\Local\ScannerProfiles*<scan source>*APC

Windows XP VRS Standalone

C:\Program Files\Kofax\Imgctl\bin\Profiles\APC

Windows XP VRS with Kofax Capture

C:\Documents and Settings\All Users\Application Data\Kofax\Capture\Local\ScannerProfiles*<scan source>*APC

The database consists of two files: *FormID.fpr* and *FormID_train.dat*. Both of these files are binary files generated by the image classifier. The *.fpr* file is the classifier project file, which defines parameters as to how the classifier is being used. The *.dat* file grows as more images and form types are trained. Once training is completed, the *.dat* file no longer changes.

The training set images are in a folder named TrainSet under the APC folder. Each folder contains the training image that was generated. Every time the Train button is clicked, another image is added to the training set. The training set of images is needed only for retraining. The ImproveRoot folder is a temporary folder used during training.

Auto Profile Configuration

The Auto Profile configuration process involves enabling Training mode and creating the profiles needed for each form type.

Training Auto Profile

1. Open the Kofax VRS Administration Console from Start Menu | All Programs | Kofax VRS or by navigating to one of the following folders:

Windows 7 VRS Standalone

C:\Program Files (x86)\Kofax\Imgctl\bin

Windows 7 VRS with Kofax Capture

C:\Program Files (x86)\Kofax\Capture\Imgctl\bin

Windows XP VRS Standalone

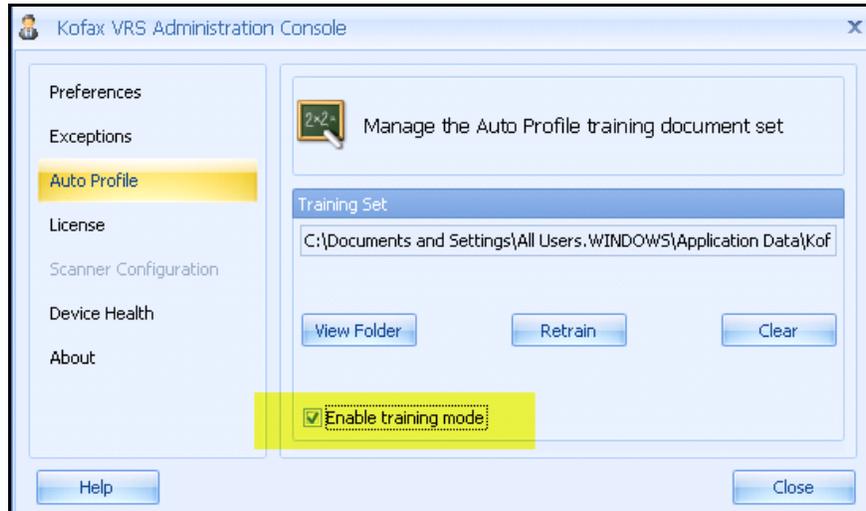
C:\Program Files\Kofax\Imgctl\bin

Windows XP VRS with Kofax Capture

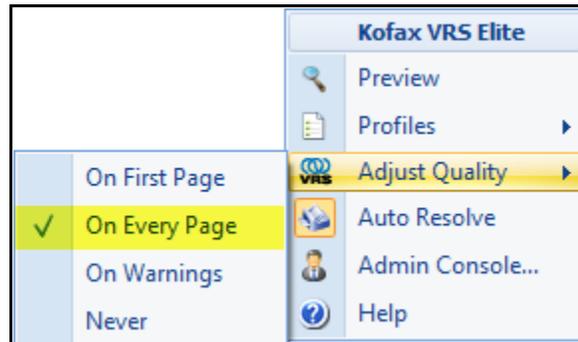
C:\Program Files\Kofax\Capture\Imgctl\bin

- Click the Auto Profile tab and check the Enable training mode box.

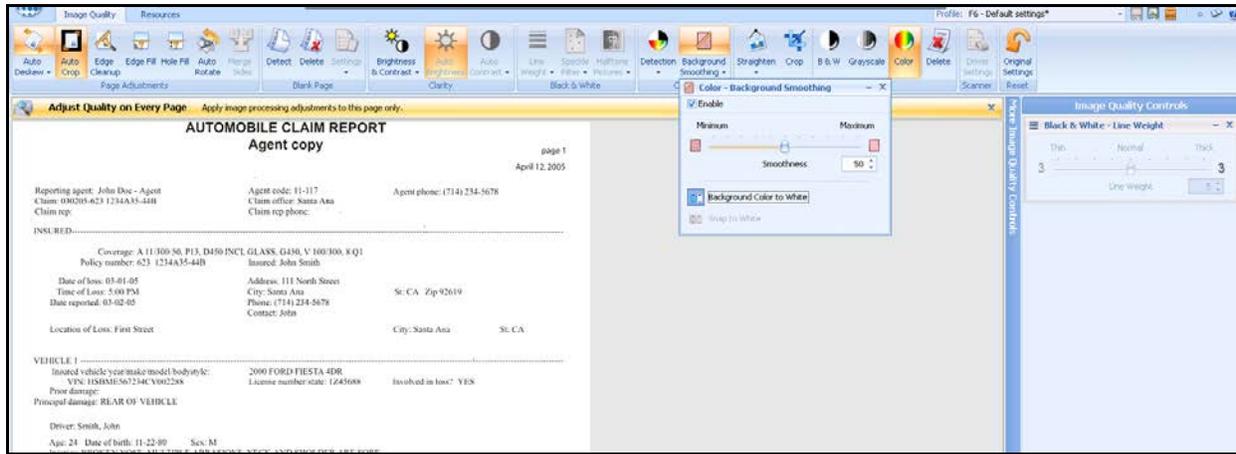
NOTE: The path where the Training data is saved is indicated in this dialog box.



- Close the VRS Administration Console.
- Launch the desired scanning application, such as the VRS Test Console.
- Select and load the desired scanner.
- Right-click on the VRS icon in the System Tray and set the Adjust Quality setting to On Every Page.



7. Scan the first document. Note that the image will appear in the VRS Interactive Viewer.

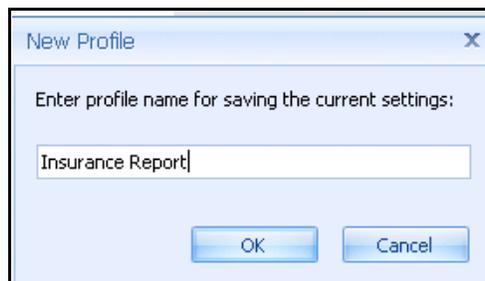


8. Adjust the VRS properties to create the desired image quality.

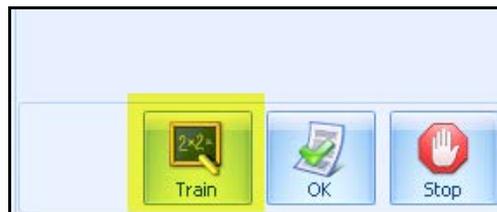
Notice the Auto Profile Confidence reading displayed on the bottom toolbar. At this stage, the Confidence reading only estimates the forms uniqueness and its ability to distinguish the form from other images. The Confidence information will be used later to determine if a scanned document meets the minimum Confidence threshold.



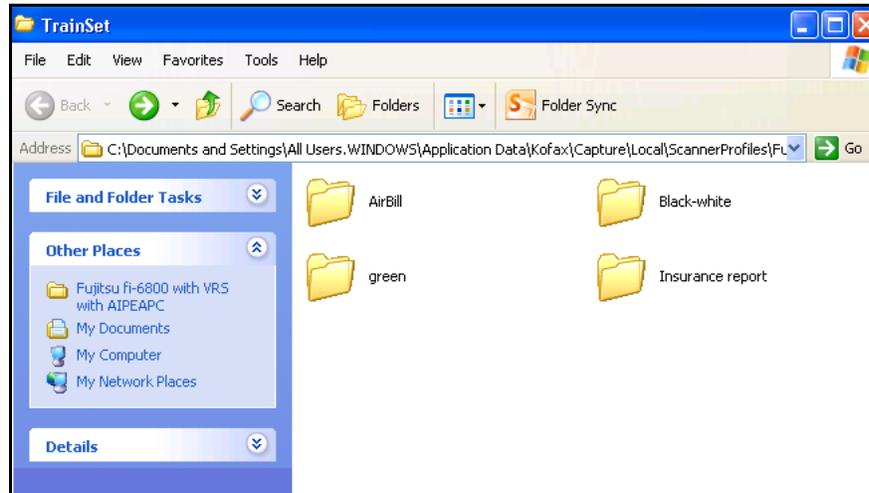
9. When the desired VRS corrections are achieved, save the VRS Profile.



10. Click the Train button in the lower right to associate the profile to the form. VRS will then scan the next page in the scanner. After all forms have been scanned and an associated profile has been created/assigned, close the VRS Interactive Viewer and the scanning application.



NOTE: Each profile created in the VRS Interactive Viewer is saved in its own folder as seen below.



Using Auto Profile

1. Open the Kofax VRS Administration Console from Start Menu | All Programs | Kofax VRS or by navigating to one of the following folders:

Windows 7 VRS Standalone

C:\Program Files (x86)\Kofax\Imgctls\bin

Windows 7 VRS with Kofax Capture

C:\Program Files (x86)\Kofax\Capture\Imgctls\bin

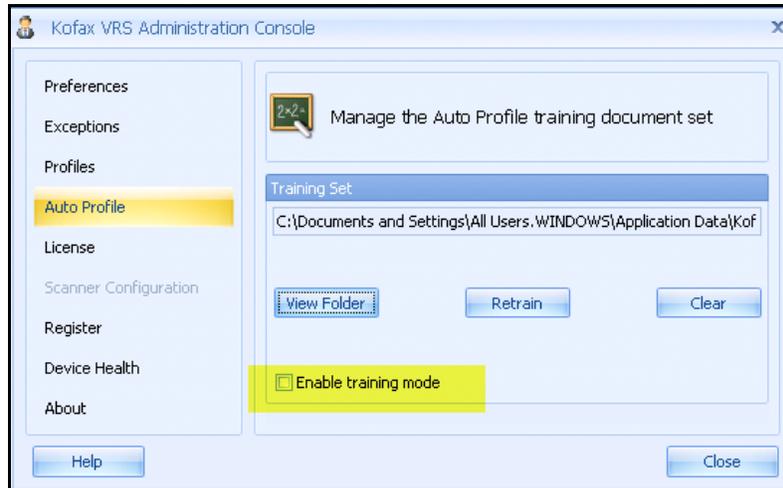
Windows XP VRS Standalone

C:\Program Files\Kofax\Imgctls\bin

Windows XP VRS with Kofax Capture

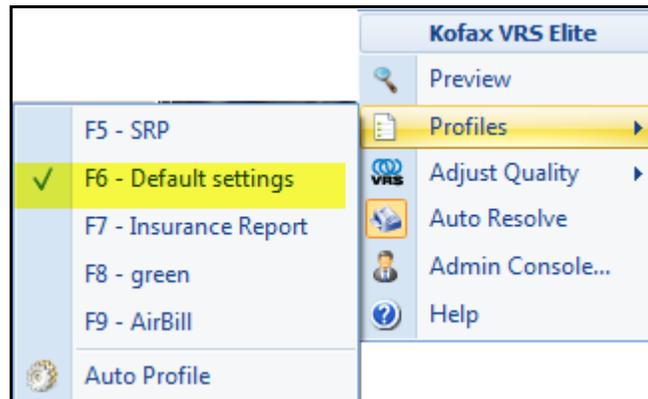
C:\Program Files\Kofax\Capture\Imgctls\bin

- Click the Auto Profile tab and uncheck the Enable Training Mode box.



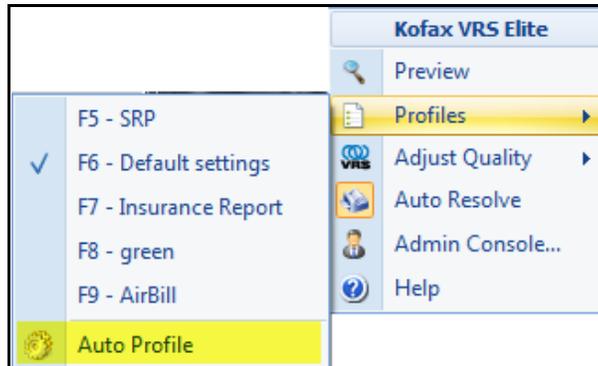
- Close the VRS Administration Console.
- Launch the desired scanning application, such as the VRS Test Console.
- Select and load the desired scanner.
- Right-click on the VRS icon in the System Tray and set the desired default profile from the Profiles option.

NOTE: The profile that is selected at the start of the batch will be applied to every image that does not match any of the known form types.



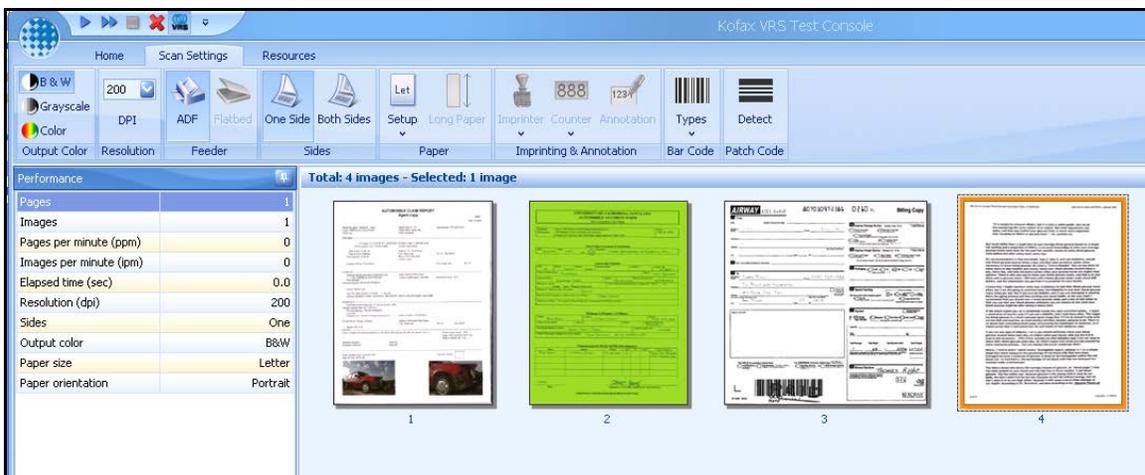
- Right-click on the VRS icon in the System Tray and set the Adjust Quality to any option other than On Every Page.

- Right-click on the VRS icon in the System Tray and enable Auto Profile from the Profiles option.



- Scan a batch of mixed documents that include the forms that have associated VRS profiles.

NOTE: In the example below, the Auto Profile feature applied the appropriate VRS profile to each image without any user intervention.



Auto Profile Confidence Warning

The Auto Profile Confidence Warning will flag images in the VRS Interactive Viewer if the confidence level is lower than the specified threshold. The Warning options include three Actions: Ignore Error, Interactive and Return Error. Ignore Error will not trap images in the VRS Interactive Viewer if the Auto Profile Confidence value is below the threshold value. Interactive will display the image in the VRS Interactive Viewer for adjustment if the Auto Profile Confidence value is lower than the specified threshold value. Return Error will display an error dialog box with an OK button, but does not allow adjustment of the image.

To enable the Auto Profile Confidence Warning, follow the directions below.

- Open the Kofax VRS Administration Console from Start Menu | All Programs | Kofax VRS or by navigating to one of the following folders:

Windows 7 VRS Standalone

C:\Program Files (x86)\Kofax\lmgctl\bin

Windows 7 VRS with Kofax Capture

C:\Program Files (x86)\Kofax\Capture\Imgctls\bin

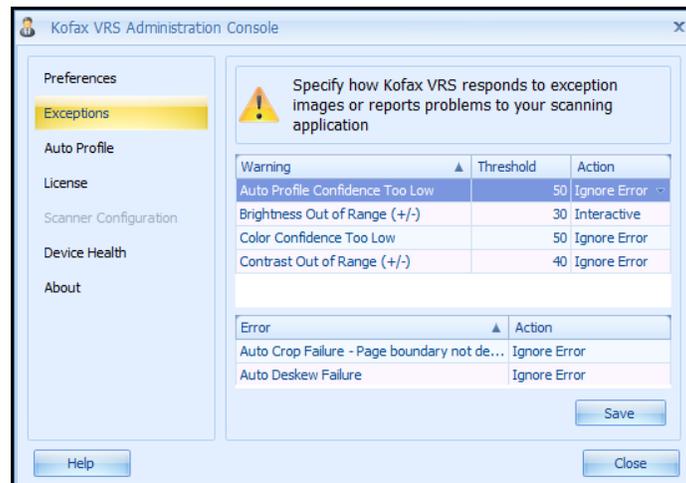
Windows XP VRS Standalone

C:\Program Files\Kofax\Imgctls\bin

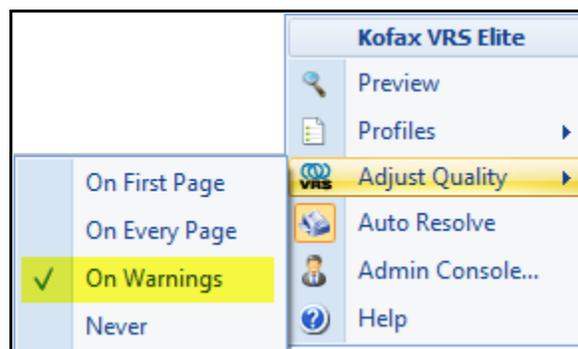
Windows XP VRS with Kofax Capture

C:\Program Files\Kofax\Capture\Imgctls\bin

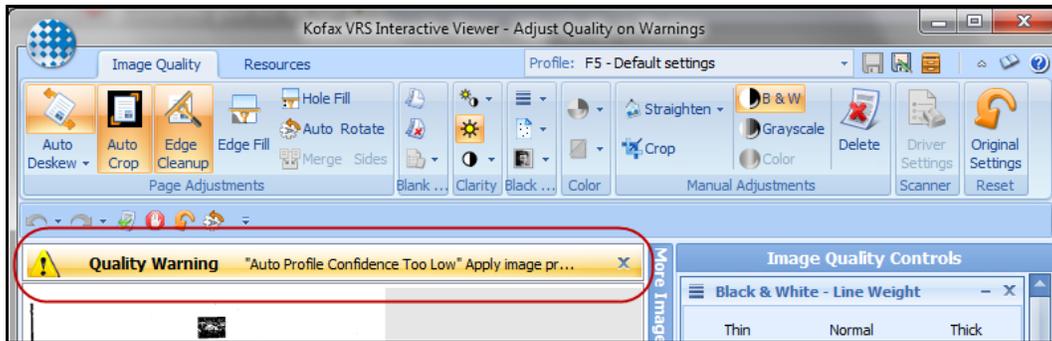
- Click on the Exceptions tab to display the available Warning options.



- Set the desired Threshold value and Action for the Auto Profile Confidence Too Low setting.
- Click Save to save the settings and Close to exit the VRS Administration Console.
- Launch the desired scanning application, such as the VRS Test Console and load a VRS Scan source.
- Right-click on the VRS icon in the System Tray and set the Adjust Quality setting to On Warnings.



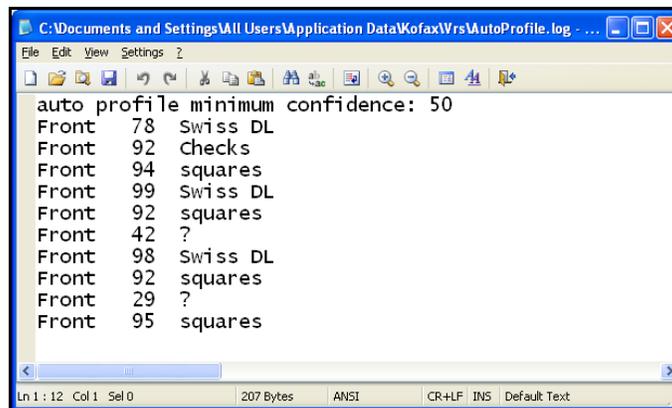
- Scan a batch of documents. When a page is encountered where the Auto Profile Confidence value is lower than the Threshold value set in the VRS Administration Console, the VRS Interactive Viewer will display the image with a Quality Warning.



- Adjust the VRS quality settings as needed or select the appropriate Profile to apply. Click OK to accept the image and continue scanning.

Auto Profile Logging

For troubleshooting and evaluation purposes, logging can be enabled for the Auto Profile feature. This logging will log the minimum confidence level as well as the results of every classification. Logging will initialize each time the scanner is reserved. Below is a sample log file. The first column logs the side of the image. The second column logs the classifier confidence score. The third column logs the form name. If the classifier confidence score is below the threshold the form name will be logged as a question mark.



To enable Auto Profile Logging, follow the directions below.

- Navigate to the following folders:

Windows 7:

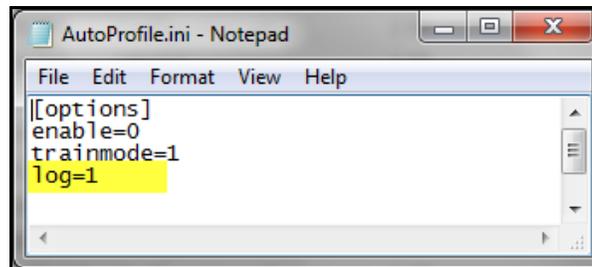
C:\ProgramData\Kofax\Vrs

Windows XP:

C:\Documents and Settings\All Users\Application Data\Kofax\Vrs

- Open the AutoProfile.ini file with a text editor such as Notepad.

3. Change the log element value from 0 to 1 to enable logging.



4. Scan a batch of documents with [Auto Profile enabled](#).
5. The log file will appear as AutoProfile.log and will be saved to the following folders:

Windows 7:

C:\ProgramData\Kofax\Vrs

Windows XP:

C:\Documents and Settings\AllUsers\Application Data\Kofax\Vrs