



PaperFlow™

User Guide

PaperFlow™ Release 82

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Table of Contents

Chapter 1 - Welcome to PaperFlow	1
Starting the Application	1
Terminology	2
Creating a New Batch	2
Opening an Existing Batch	3
Changing the Default Batch Path	4
Deleting Batches	4
Locating a Batch	4
Recent Batches	6
Get Started	6
Click Status	6
Scheduling Service	7
FTP	7
Reports	7
System Requirements	7
Minimum Requirements for Hardware and Virtual Hardware	8
Navigating the Workspace	8
Maximum Image Sizes	16
Chapter 2 - PaperFlow Button Operations	17
Preferences	20
Indexing Preferences	21
Display Preferences	22
System Preferences	23
FTP Preferences	28
System Messages	29
Hot Keys	31
Quick Click	35
Scheduling Service Preferences	36
New Batch Wizard	37
Chapter 3 - Home Page	52
Thumbnails Window	52
Indexing Window	52
Browse Batch Window	52
Browse Batch Window Operations	54
Scanning New Documents	55
Stopping the Scanning Process	55
Re-Scanning a Page	55
Configure the Scanner	56
Batch Operations	57
Mouse Functions	62
Misc Functions	64
Managing Zones	65
Right-Click Operations	66
Browse Batch Window Operations	68

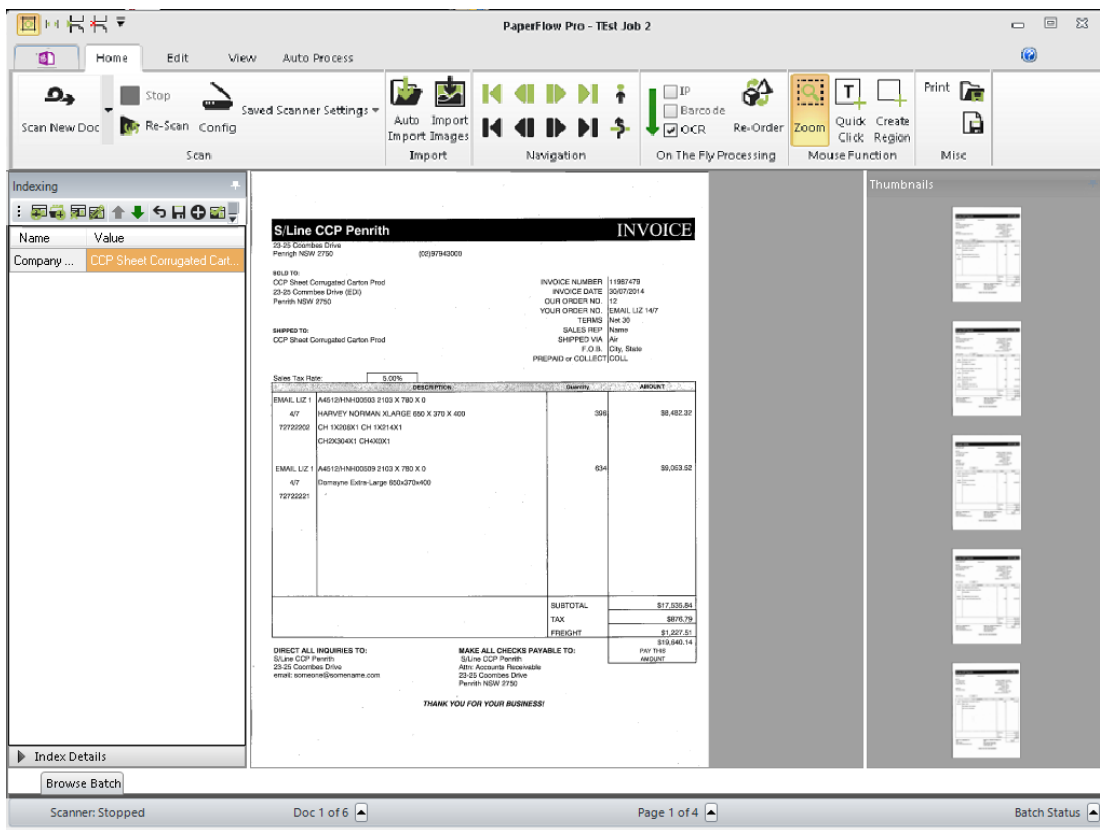
On the Fly Processing	69
Barcode Zone Configuration	75
Barcode Zone Properties	81
OCR Zone Configuration	85
Engine and Zonal OCR Properties	89
Scanning Operations	93
Scanner Settings	95
Indexing	98
Adding Indexes	99
Adding Detail Fields	100
Deleting Indexes and Detail Fields	101
Editing Indexes and Detail Fields	101
Moving Indexes Up/Down	101
Resetting Index Values	101
Adding Detail Sets	102
Saving Index Values	102
Verifying Index Values	103
Index Details	103
Manual Barcode Indexing	105
Detail Sets	105
Basic and Advanced Indexing Properties	106
Basic Indexing Properties	108
Advanced Indexing Properties	120
Chapter 4 - Reports	130
Production Report	131
Summary Report	132
User Production Report	133
Batch Cost Report	134
Customizing Reports	135
Report Properties	136
Working with Reports	137
Chapter 5 - Edit Page	139
Document Operations	139
Page Operations	142
Advanced Configuration	152
Custom Code Configuration	166
Importing Custom Code	189
Exporting Custom Code	189
Cutting, Copying, and Pasting Custom Code	190
Compiling Custom Code	190
References	190
Finding Code in the Script Editor	192
Debugging Custom Code	193
Match and Merge Wizard	193
Document Match and Merge	193
Batch Match and Merge	199

Chapter 6 - View Page	205
Display	205
Zooming and Scaling - Order of Operations	206
Zoom Operations	206
Scale Image	206
Chapter 7 - Auto Process Page	207
Schedule a Batch Processing Task	209
Image Processing	211
Barcode	211
Zonal OCR	212
Exports	213
Scheduling Service	217
Image Processing Configuration	222
Configuring Image Processing Filters	223
Exports	256
Export Definitions	258
Full-Text OCR Configuration	320
Full-Text OCR Properties	327
Chapter 8 - PaperFlow NOW!	333
Launching the Application	333
Configuring the Scanner	334
Scanning and Generating Output Files	334
Page Navigation Operations	335
Zooming and Rotating Operations	335
Deleting Images	335
Command Line Parameters	336
Chapter 9 - Additional Help Resources	340
Technical Support	340
Appendix A: Data Group Import Script for PaperFlow (.NET)	341
Create a PaperFlow (.NET) job	341
Configure the Data Group Import Script	346
Import the Data Group	351
Appendix B Digitech Logging Utility	355
Configuring the Digitech Logging Utility	355

Chapter 1 - Welcome to PaperFlow




PaperFlow™ performs document scanning, indexing, barcoding, zonal OCR, image processing, and full-text OCR. The application provides an intuitive graphical interface that enables you to scan, index, export, and FTP documents, define barcodes, image processing, and OCR zones, and execute automated processing tasks such as: image processing, barcoding, and zonal/full-text OCR. Various full-text OCR outputs are available, including: PDF, PaperFlow, PaperVision® Enterprise, and text outputs. Batches can be exported in various formats that are compatible with external applications and web sites, such as: PaperFlow™, ImageSilo®, and Microsoft® SharePoint.



Home Page

Starting the Application

To launch the PaperFlow™ application, double-click the **PaperFlow**  icon located on your desktop. Alternatively, you can select **Start > All Programs > Digitech Systems > PaperFlow**. The **Home** page appears displaying the options available from it: **New Batch**, **Open Batch**, and **Locate Batch**. The tabs available from the home screen are: **Getting Started**, **Click Status** (for click licensing only), **Scheduling Service**, **FTP**, and **Reports**.

Note: PaperFlow™ and the PaperFlow NOW! (launched via the **PaperFlow NOW!**  icon) graphical user interface applications cannot be run simultaneously on the same machine.

Terminology

The following PaperFlow terminology will be used throughout this online help file:

Batch - A batch is a collection of documents and their associated index name-value pairs.

Default Batch Path - The Default Batch Path is the local storage directory where PaperFlow stores all captured images.

Detail Sets - Detail sets expand on the capabilities of standard index fields because they define "many-to-one" relationships, which allow multiple sets of field data to reference a single document. In a many-to-one relationship, an index field contains a value that references another field or set of fields that contain unique values.

Document - A document is the equivalent of a file folder within a filing cabinet. A document holds all of the pages for a given set of index values.

Image - An image is a visual representation of a picture or graphic, such as an electronic file with the extensions .bmp, .jpg, or .tif.

Index - An index is a value that users apply to a document for reference and retrieval.

Job - A job is a defined process comprised of one or more manual or automated tasks (e.g., scanning, indexing, and exporting) through which batches are processed. Each batch is unique by name.

NOTE: All active PaperFlow jobs must match the same version of PaperFlow in which they will be used. When you upgrade PaperFlow to a new version, the application and all active PaperFlow jobs are upgraded to the new version. Therefore, only use jobs that come from the same version of PaperFlow that you are using.

On-the-Fly Processing - Image processing, barcode reading, and zonal OCR can be executed while you scan documents. You can change the order in which these tasks are executed; however, image processing must be executed first or last.

Page - One or more images (files with extensions of .bmp, .jpg, and .tif) comprise a single page within a document. For example, a page can include the originally captured image and a manipulated image after noise removal.

PaperFlow NOW! - PaperFlow NOW! is installed as a separate application in conjunction with PaperFlow. With PaperFlow NOW! you can quickly scan and convert images to full-text PDF, image-only PDF, or multi-page TIFF files. You can execute operations in PaperFlow NOW! in the standard graphical user interface or via command line interface.

Creating a New Batch

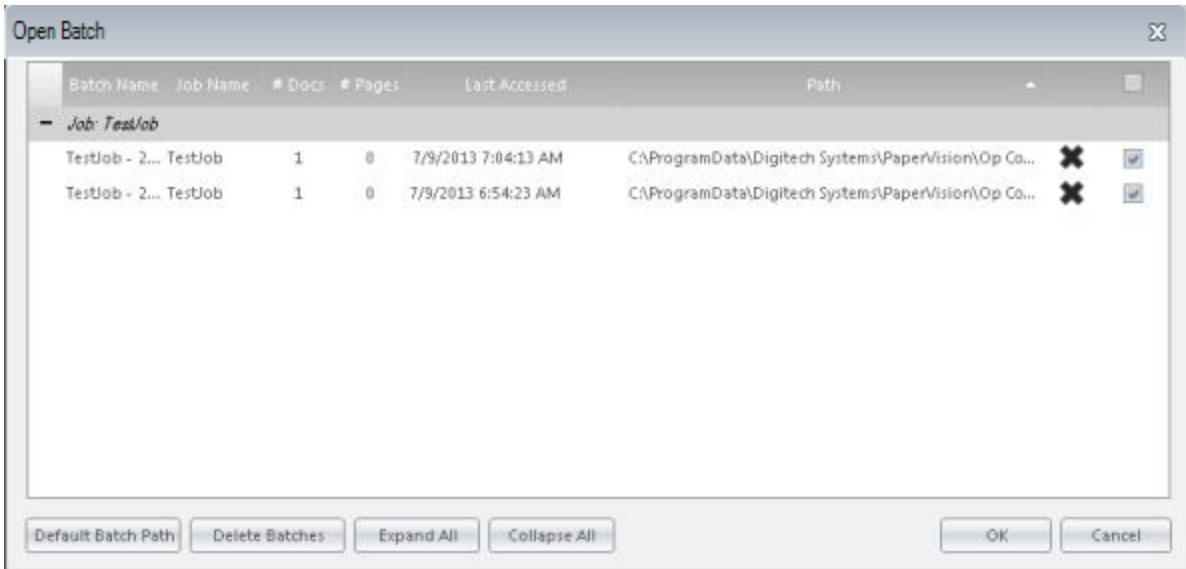
On the **Start** page, the **New Batch** option launches the **New Batch Wizard**. The wizard helps you create new jobs and batches to process your documents. See the [New Batch Wizard](#) topic for more information.

Opening an Existing Batch

On the **Home** page, you can open an existing batch.

To open an existing batch

1. Click the **Open Batch**. The **Open Batch** grid opens.



Open Batch

Note: Alternatively, you can highlight the batch in the **Recent Batches** list to open it.

2. Select the batch.
 - Batches can be sorted by batch name, job name, number of docs/pages, directory path, and last opened date.
 - Click a column header to sort the list in ascending or descending order. The sort order is maintained for the duration of the user's session.
 - To reorder the columns, drag the column header to another location in the grid.
3. After selecting the batch, click **OK**. The **Home** page appears, where you can execute scanning, indexing, and other primary operations. See the [Home Page](#) topic for detailed information on all operations.

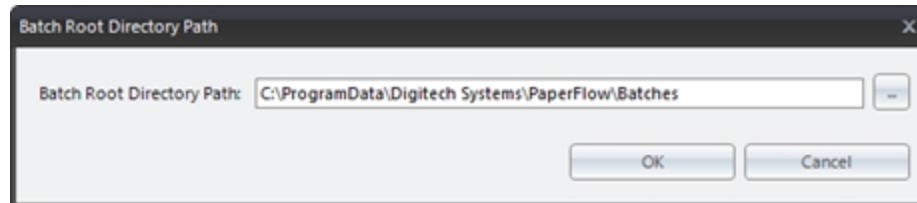
Note: If another batch is currently open, you will be prompted to close the current before opening the new batch.

Changing the Default Batch Path

You can change the default batch path where your new batches are stored.

To change the default batch path

1. In the **Open Batch** dialog box, click the **Default Batch Path** button. The **Batch Root Directory Path** dialog box appears.



Batch Root Directory Path

2. To change the default batch path, enter the location, or click the ellipsis button to browse to the directory.
3. In the **Browse for Folder** dialog, select the new directory, and then click **OK**.
4. To confirm the change, click **OK**.

Deleting Batches

1. In the last column of the **Open Batch** dialog box, check the box(es) of the batch(es) to be deleted.

Note: To delete only one batch, highlight the batch, and then select **Delete**.

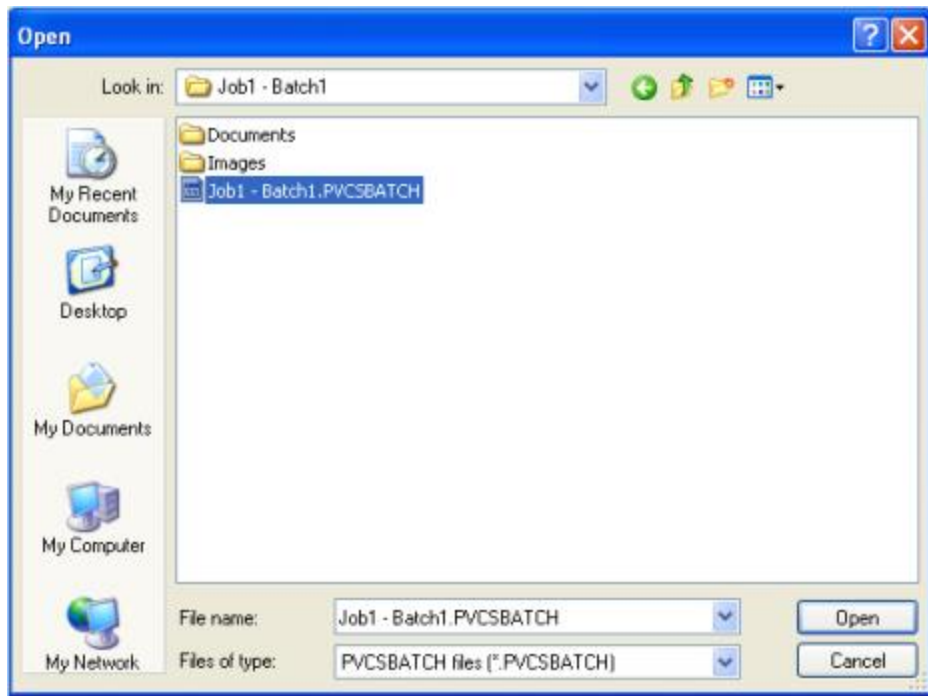
2. Click the **Delete Batches** button.
3. Click **Yes** to confirm the deletion

Locating a Batch

In the **Home** page, the Locate Batch operation enables you to find and open batches that are stored in locations such as your local machine, network, or shared drive.

To locate a batch

1. Click **Locate Batch**. The Windows Open dialog appears.

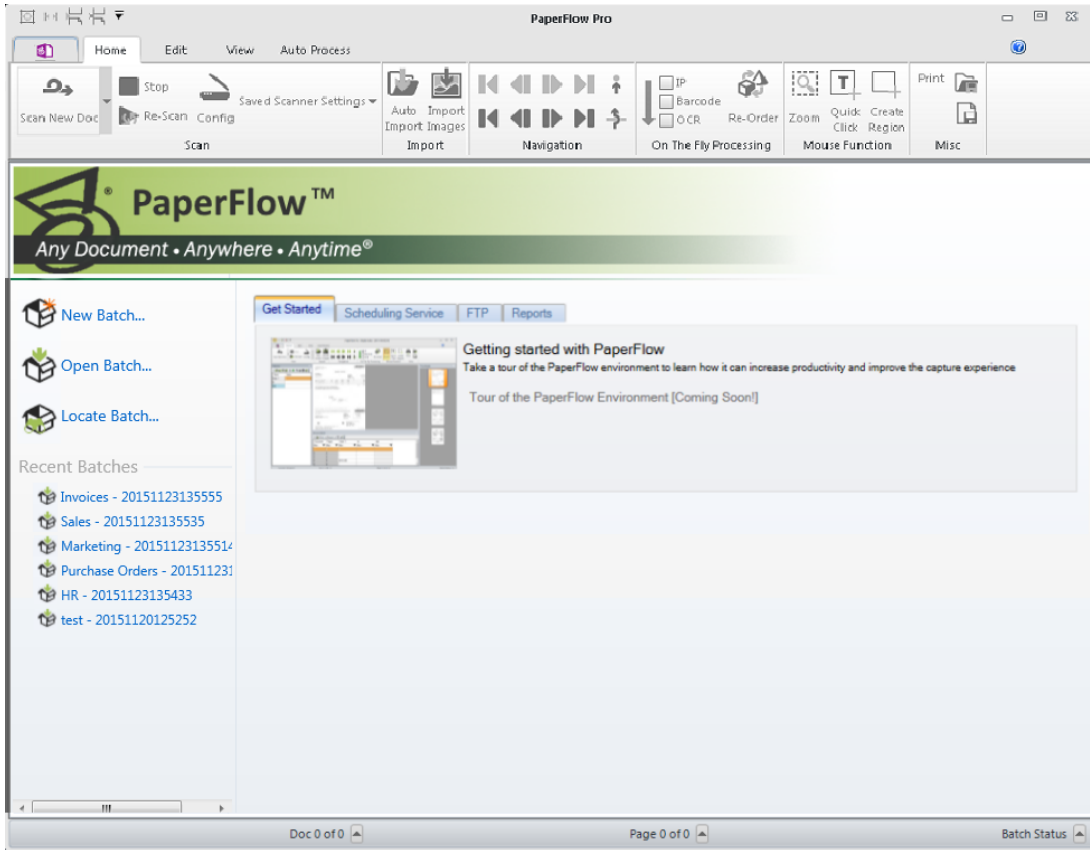


Open

2. Navigate to the appropriate directory where the **.PVCSBATCH** file resides.
3. Highlight the **.PVCSBATCH** file, and then click **Open**. The located batch appears in the **Recent Batches** list.

Recent Batches

From the PaperFlow **Home** page, you can view the most recent batches that you have created.



Recent Batches

To open a batch you have recently worked on but not yet processed, highlight the batch in the Recent Batches list. The Home page will open, where you can resume scanning, indexing, etc. documents. See the [Home Page](#) topic for specific information on scanning, indexing, and other document operations.

Get Started

Within the **Get Started** tab you can insert links to your company's intranet, website, training forums, etc.

Click Status

The **Click Status** tab is only available if you are using a click license. Clicks are consumed when you scan, or import a page or image. The **Click Status** tab contains the following information.

- **Last Server Update** - shows the last time PaperFlow successfully connected with Digitech Systems to report click usage.
- **Time Since Last Update** - shows the length of time elapsed after the last successful connection with Digitech Systems.

- **Max Offline Time Allowed** - shows the length of time allowed before the system will lock your license. This ensures that PaperFlow can continue processing documents in the event that the system is unable to communicate with Digitech Systems.
- **Report Interval** - shows the length of time that may pass before click usage is reported to Digitech Systems.
- **Clicks Used** - shows the total number of clicks used on the license.
- **Clicks Remaining** - shows the total number of clicks remaining on the license.

Scheduling Service

The **Scheduling Service** tab provides quick access to the scheduling service functions. See [Scheduling Service](#) for more information.

FTP

The FTP operation securely transfers your documents, images, and associated index values to an FTP site. Before processing FTP, ensure the required FTP settings have been configured in the PaperFlow or ImageSilo/PVE XML custom code generator wizard (Auto Process page > Wizard > PaperFlow or ImageSilo/PVE XML). You can execute FTP from the **Home** page, PaperFlow Button, or from the Auto Process page. For details on executing FTP, see the [Auto Process Page](#) topic.

Note: For more information on PaperFlow or ImageSilo/PVE XML export configuration, see the [Exports](#) topic.

Reports

The **Reports** tab provides quick access to the reporting functions in PaperFlow. See [Reports](#) for more information.

System Requirements

The following tables outline the minimum software requirements and recommended hardware requirements for the PaperFlow application. PaperFlow supports more than 300 ISIS-compatible scanners.

Minimum Software Requirements	
Operating Systems	Windows 7, 8, and 8.1, or 10 (both 32- and 64-bit operating systems are supported)
.NET Framework	Version 4.7 or later
Windows Installer	Version 4.5 or later

Minimum Requirements for Hardware and Virtual Hardware

Most enterprise software is capable of operating on a basic hardware configuration that includes a current processor and 4 GB of memory for desktops and 8 GB of memory for servers. Due to new features and enhancements, PaperFlow requires a minimum of 3 GB of RAM to function. However, each organization and their intended use of PaperFlow are unique. The intended workload (including the maximum number of users, and the quantity and types of operations performed within a specific periodicity, etc.), coupled with security and redundancy requirements, will dictate the hardware requirements for your implementation.

PaperFlow has the distinct capability of being able to scale both up and out. You can configure most of the functions performed by PaperFlow to take advantage of powerful hardware configurations, such as those with many processor cores and hundreds of GB of memory (scaling up). Additionally, PaperFlow can spread its processing requirements across numerous computers (scaling out).

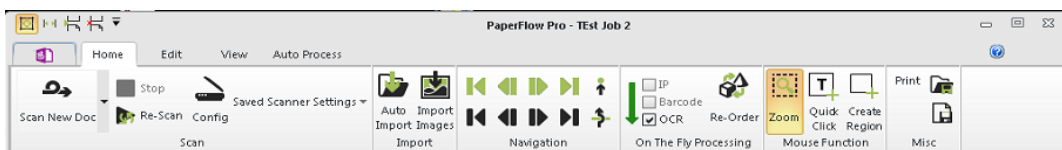
PaperFlow products are designed and tested for specific operating systems, not hardware environments. Numerous customers successfully run PaperFlow in virtual environments, including VMware® and Microsoft® Hyper-V. While this technology has matured over the years, issues have occurred with common software (other than PaperFlow) not operating properly or efficiently because of the virtual environment. In the cases that Digitech Systems' Technical Support has witnessed, the issue was with the virtual environment, not our software. If our technical support believes that the hardware environment (including virtual environments) is contributing to an operational or performance issue, they may request that you ensure the issue exists in a different (or non-virtual) environment.

If you intend to use a virtual environment for your PaperFlow implementation, carefully consider the implications of running in a shared environment. Remember, you are not just sharing processors and memory. You are also sharing network and disk resources with the other virtual environments on the same hardware.

Navigating the Workspace


PaperFlow features an intuitive ribbon interface that contains groups of controls placed on tabs in the workspace. Within each tab (page), a ribbon displays graphical representations of related operations, such as the Scanning operations group in the Home page. To navigate to another page, simply click on the tab name.

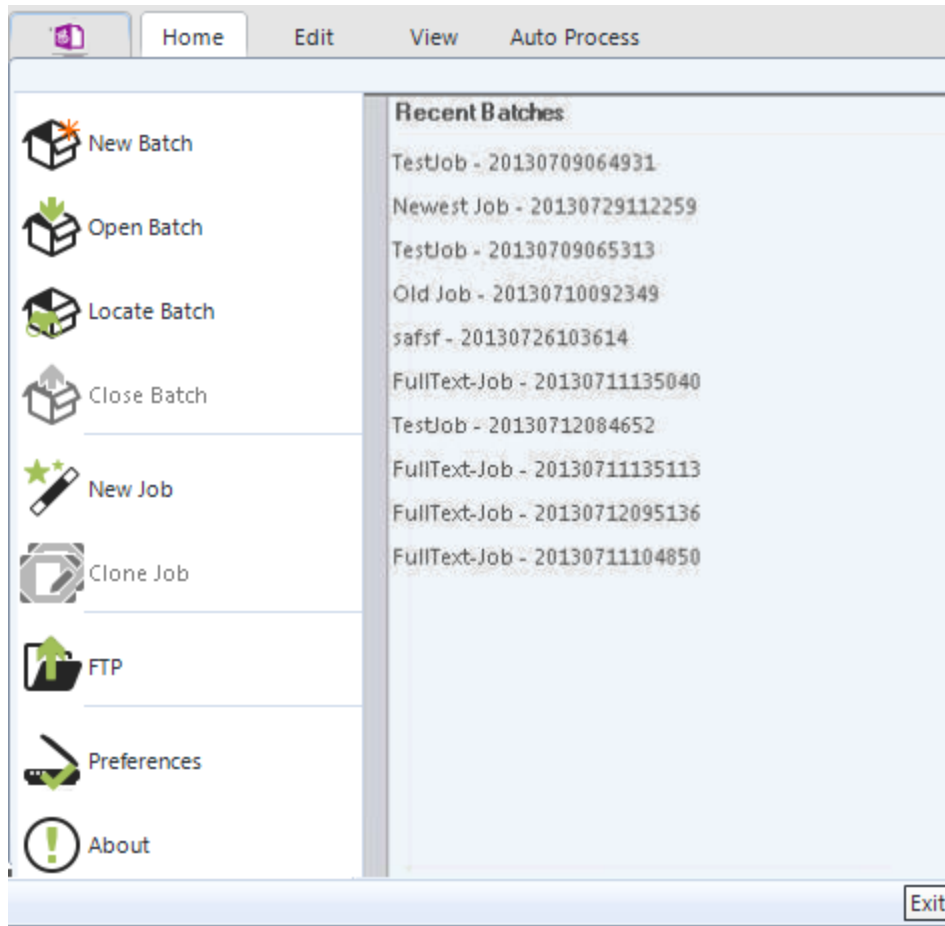
- The **Home** page contains the application's primary scanning, indexing, document/page navigation, zonal, on the fly processing, and mouse function operations.
- The **Edit** page contains the job setup ,document, page manipulation operations and miscellaneous operations.
- The **View** page contains display, scaling, and zoom operations.
- The **Auto Process** page contains, processing options, zonal OCR, barcoding, image processing, and export operations.



PaperFlow Ribbon

PaperFlow Button

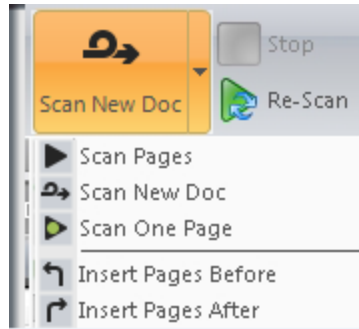
The PaperFlow Button  is located in the upper left side of the application and contains all batch and job operations, FTP, and user preferences such as system, display, and import preferences.



PaperFlow Button Operations

Toolbar Groups and Drop-Down Menus

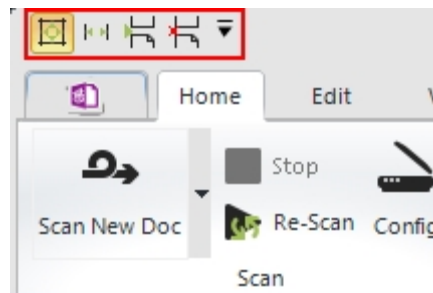
Within each page, related operations are grouped together in the main toolbar. Primary operations, such as the Scan New Doc operation, contain drop-down menu options such as Scan Pages, Scan One Page, and Insert Pages Before/After. Once you select the Scan New Doc, Scan Pages, or Scan One Page operation, your selection will be retained as the main operation in the Scanning toolbar group.



Scanning Toolbar Group and Drop-Down Menu


Quick Access Toolbar

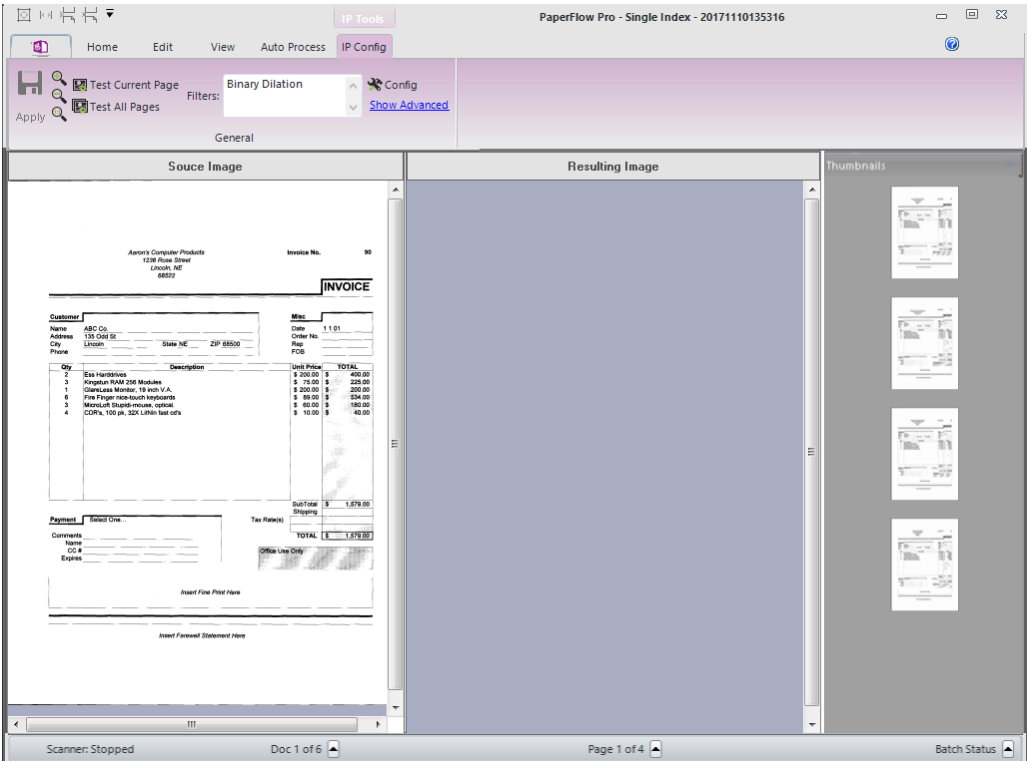
The Quick Access Toolbar contains a set of commands that are independent of the current page. You can customize this toolbar with commands that you commonly use in the application.



Quick Access Toolbar

Context Sensitive Pages

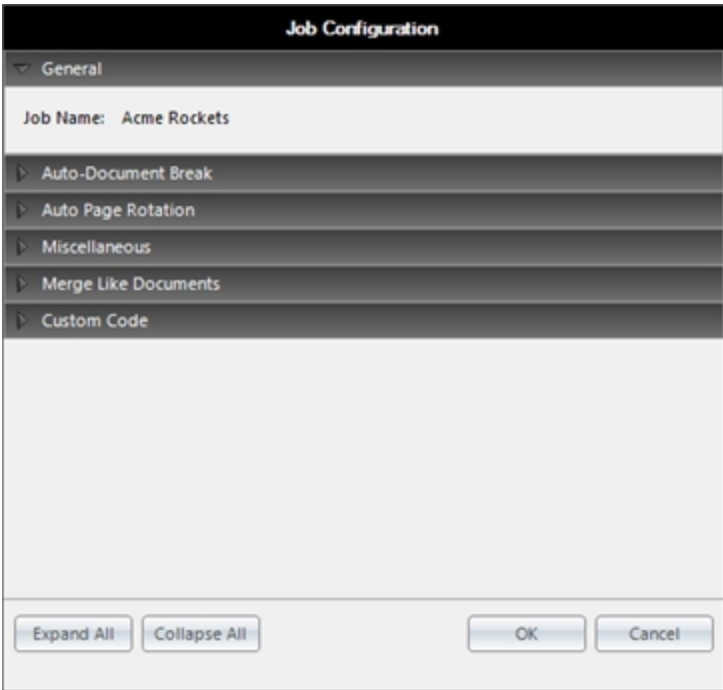
Context Sensitive pages appear when you select a certain type of operation in the Home and Auto Process pages. For example, when you select the **Config**  icon in the IP toolbar group in the Auto Process page, the IP Config context sensitive page opens where you can configure, test, and apply IP filters.



IP Config Context Sensitive Page

Expandable and Collapsible Properties

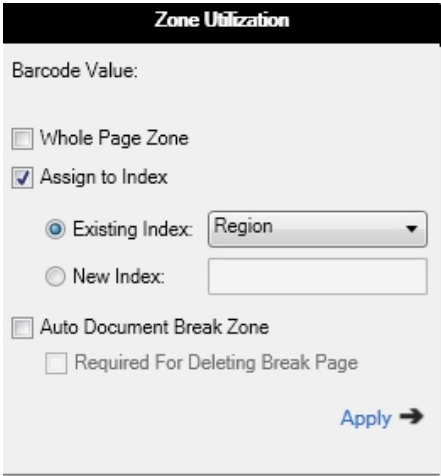
When you assign indexing properties (via the Indexing window in the Home page), expandable and collapsible panel menus will appear. Additionally, these panel menus will appear when you modify job settings in the **Edit** page.



Job Configuration

Flyout Windows

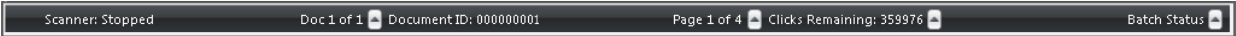
When you apply zones (via the **Manage Zones** operation) or regions (via the **Create Region** mouse function) to images, a flyout window immediately appears with barcode values, OCR values, and/or zone utilization options. Zone utilization options enable you to assign barcode and OCR zones to automatically break documents or assign to indexes. You can also apply zoom zones on images with the Region mouse function.




Zone Utilization

Status Bar


At the bottom of the application, the Status Bar provides the status of current operations in each screen (Scanner: Stopped; Automated Process: OCR; etc.). The Status Bar also shows the current document, Document ID (if you selected **Show Document ID** in Display Preferences), page location, image information, number of clicks remaining on a license (clicks remaining and click license status are only visible if you installed a click license), and batch status.



Status Bar

To view the image information, such as its file name, dimensions, size, etc., click the arrow  next to the **Page** information in the Status Bar. You can view the following in the **Image Information** Window.

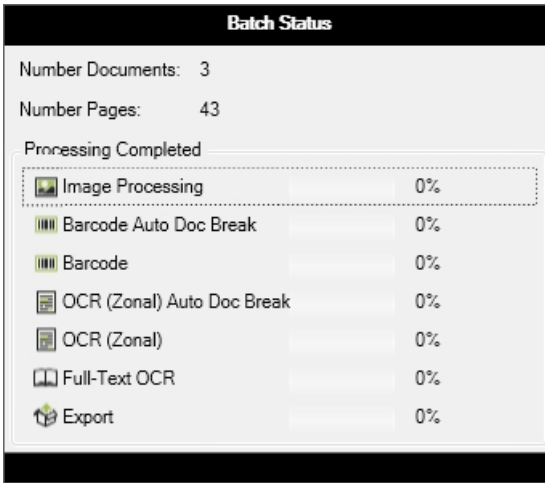
- Displayed Image
- Dimensions
- Horizontal Resolution
- Vertical Resolution
- Size
- Current Document Name
- Document Creation Date

To view click license information, including the date and time of the last server update, time since last server update, maximum offline time allowed, report interval, and number of clicks used and remaining on the license, click the arrow  next to **Clicks Remaining** in the Status Bar. See "Click Status" on page 6 for definitions of these properties.

Click Status	
Last Server Update:	11/23/2015 12:06PM
Time Since Last Update:	0d 00:01:19
Max Offline Time Allowed:	2d 00:00:00
Report Interval:	0d 00:01:00
Clicks Used:	10
Clicks Remaining:	359990

Click Status

To view batch status information, including the number of documents and pages comprising the batch; automated processing status, etc., click the arrow next to the **Batch Status** information in the Status Bar. To reset an automated process, click **Reset**; to reset all automated processes, click **Reset All**.







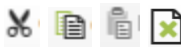




Batch Status

Right Click Operations

You can execute a variety of operations when you right-click on an image in the main viewing window in the Home, Edit, View, and Automated Processing Tasks pages. The following table displays each operation's default hot keys (if applicable), toolbar icon, and main page where the operation can be executed.

Right-Click Operations	
Reset Image	Resets the image to its original view Page: Edit Hot Key: Ctrl+T
Rotate all Images	Rotates the image 90 degrees clockwise Page: Edit Hot Key: R
Rotate Save Images	Rotates and saves one or multiple images in one document or across multiple documents Page: Edit
Scale to Height, Width, Window 	Fits images to: Height - H Width - W Scale to Window Ctrl+W Page: View

Right-Click Operations	
<p>Page Navigation</p> 	<p>Navigates through pages:</p> <ul style="list-style-type: none"> • First Page - Home • Previous Page- Page Up • Next Page- Page Down • Last Page- End • Jump to Page- J
<p>Document Navigation</p> 	<p>Navigates through documents</p> <ul style="list-style-type: none"> • First Document - Ctrl+Home • Previous Document - Ctrl+Page Up • Next Document - Ctrl+Page Down • Last Document - Ctrl+End • Jump to Document - Ctrl+J
<p>Copy Document </p>	<p>Copies all pages and appends the new document after the selected document</p> <p>Page: Edit</p> <p>Hot Key: Y</p>
<p>Delete Document </p>	<p>Deletes the current document and its associated images</p> <p>Page: Edit</p> <p>Hot Key: Ctrl+Delete</p>
<p>Insert Document Break </p>	<p>Makes your selected page the first page of the new document</p> <p>Page: Edit</p> <p>Hot Key: Ctrl+Insert</p>
<p>Remove Document Break </p>	<p>Removes a previously-inserted document break</p> <p>Page: Edit</p> <p>Hot Key: Ctrl+R</p>
<p>Cut, Copy, Paste, Delete Pages</p> 	<p>Cuts, copies, pastes, or deletes the current page</p> <p>Page: Edit</p> <p>Hot Keys:</p> <ul style="list-style-type: none"> • Cut Pages: Ctrl+X • Copy Pages: Ctrl+C • Paste Pages: Ctrl+V • Delete Pages: Delete

Right-Click Operations	
Invert Page Polarity 	Reverses the black text on white background to white text on black background (or vice versa) Page: Edit
Invert Save Pages Polarity 	Page: Edit

Maximum Image Sizes

This topic outlines the approximate limits in image sizes that can be imported into PaperFlow and processed through full-text OCR, zonal OCR, and image processing tasks. The Thumbnails windows can handle substantially larger images. Additionally, images only stored in memory or simply ingested by PaperFlow (therefore not viewed in Thumbnails windows or processed through the Full-Text OCR, Zonal OCR, or Image Processing tasks), can also be significantly larger in size.




DISCLAIMER – PLEASE READ: These dimensions are provided only as estimates to identify size limits in importing, viewing, and processing images in PaperFlow. Variations in technical environments may cause maximum image sizes to fluctuate across systems.

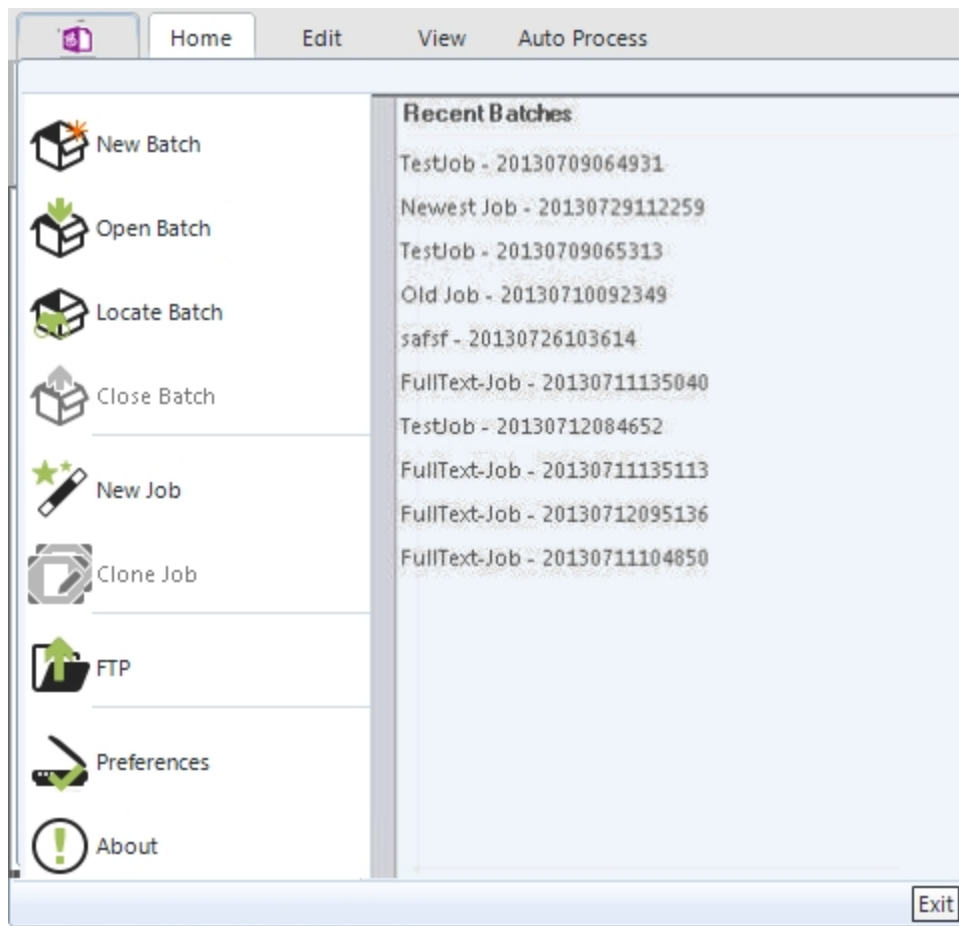
Maximum Image Sizes (in Pixels)	
Stored Images	10,000 x 10,000* * These dimensions can be greater in bitonal images.
Thumbnails	32,768 x 32,768
Image Processing	10,000 x 10,000* * These dimensions can be greater in bitonal images.
Full-Text OCR and Zonal OCR	32,000 (width) x 24,000 (height) *These dimensions will vary at different resolutions.

Chapter 2 - PaperFlow Button Operations




Batch operations, such as opening/closing, importing, and creating new batches, are located within the

PaperFlow button  in the upper left side of the application. User Preferences are also located under the **PaperFlow** button. You can modify user preferences including display, hot keys, importing, indexing, system, and confirmation messages.




PaperFlow Button Operations


Creating a New Batch

From the **PaperFlow** button , you can create a new batch. See the [New Batch Wizard](#) topic for more information.

Opening an Existing Batch

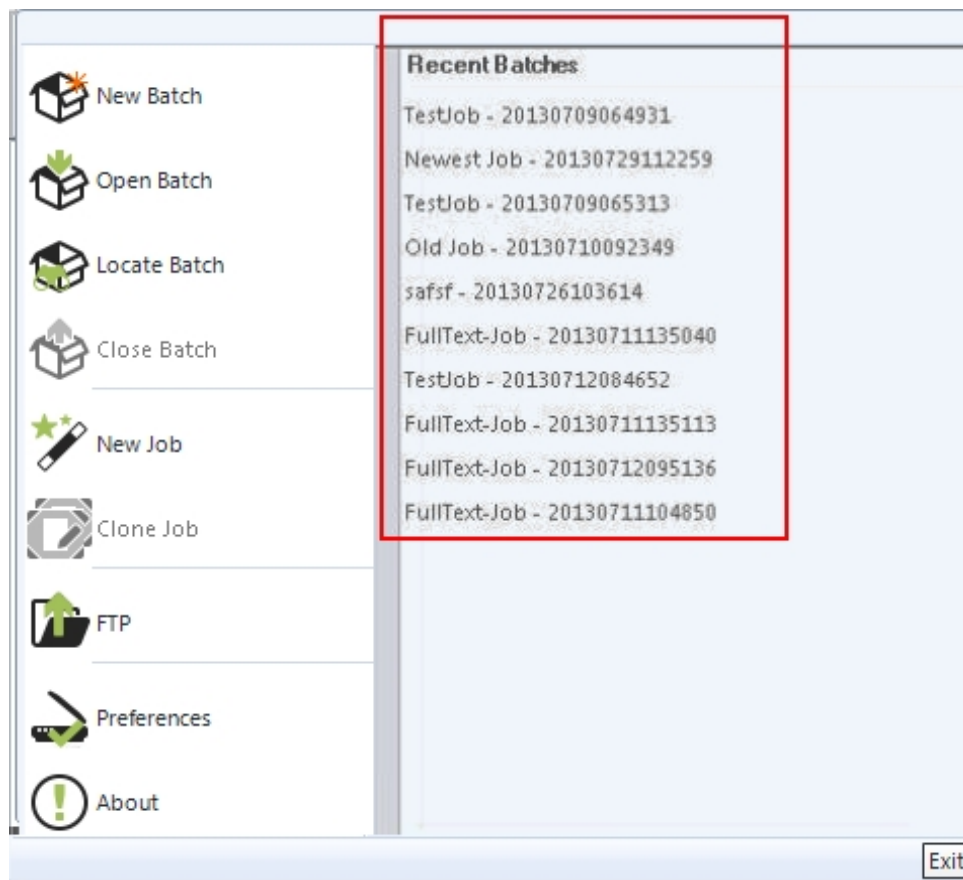
From the **PaperFlow** button , you can open a batch that was recently created. For complete instructions on opening existing batches, see the [Welcome](#) topic.

Opening Recent Batches

From the **PaperFlow** button , you can view the 10 most recent batches that you have created. If applicable, you can also open a recent batch.

To view and open a recent batch


1. Select the **PaperFlow** button , and the **Recent Batches** list appears in the right column.



Recent Batches

2. To open a recent batch, select the batch from the **Recent Batches** list.
3. If another batch is currently open, you will be prompted to close the current batch and open the selected batch. If you select **Yes**, The **Home** page will appear. See the [Home Page](#) topic for more information.


Locating a Batch

The Locate Batch operation in the **PaperFlow** button , enables you to find and open batches that are stored in a location other than your local machine, such as a network or shared drive. See the [Welcome](#) topic's section on **Locating a Batch** for more information.


Closing a Batch

You can close a current batch and work on it at a later time. The 10 most recent batches that you close will remain in the Recent Batches list.


To close a batch

1. Click the **PaperFlow** button , and then click the **Close Batch** icon.
2. Click **Yes** to close the current batch. The main **Getting Started** page appears once again.

Creating a New Job

From the **PaperFlow** button , you can create a new job. See the [Batch Creation Wizard](#) topic for more information.

Cloning a Job


From the **PaperFlow** button , you can clone a job. See the [Cloning a Job](#) topic for more information.

FTP


The FTP operation securely transfers your documents, images, and associated index values to an FTP site. Before processing FTP, ensure the required FTP settings have been configured in the PaperFlow or ImageSilo/PVE XML custom code generator wizard (**Auto Process page > Wizard > PaperFlow or ImageSilo/PVE XML**). You can execute FTP from the Home page, PaperFlow Button, or from the Auto Process page. For complete instructions on processing FTP folders, see the section on FTP in the [Welcome](#) topic.

Note: For more information on PaperFlow or ImageSilo/PVE XML export configuration, see the [Exports](#) topic.


Preferences

Click the **PaperFlow** button , and then click the **Preferences** icon to view all user preferences for the application's indexing and import operations, display and system settings, system messages, etc. For more detailed information on all user preferences, see the [Preferences](#) topic.

About


Click the **PaperFlow** button  , and then select **About** to display the product name, current released version of the application, license information, and copyright information.

Licensing PaperFlow



If you are running PaperFlow in demonstration mode and would like to add a purchased license, click the **PaperFlow** button  , and then select **License PaperFlow**. The PaperFlow License Wizard will launch and help you add a purchased license. For more information on licensing, see the accompanying **PaperFlow Installation and Getting Started Guide**.

Note: This option is not available if you have already activated a purchased license.

Exiting the Application


To close the application, select the **PaperFlow** button  , and then click the **Exit** button on the lower right. If you have any unsaved changes, you will be prompted to save those changes before the application closes. Alternatively, you can click the upper right "X" in the application.

If the **Exit to System Tray** option in the System Preferences screen is enabled, you can also close

PaperFlow by right-clicking the **PaperFlow**  or **PaperFlow NOW!**  icon in the System Tray. After you right-click the icon, select **Shut Down PaperFlow** (or **Shut Down PaperFlow NOW!**).

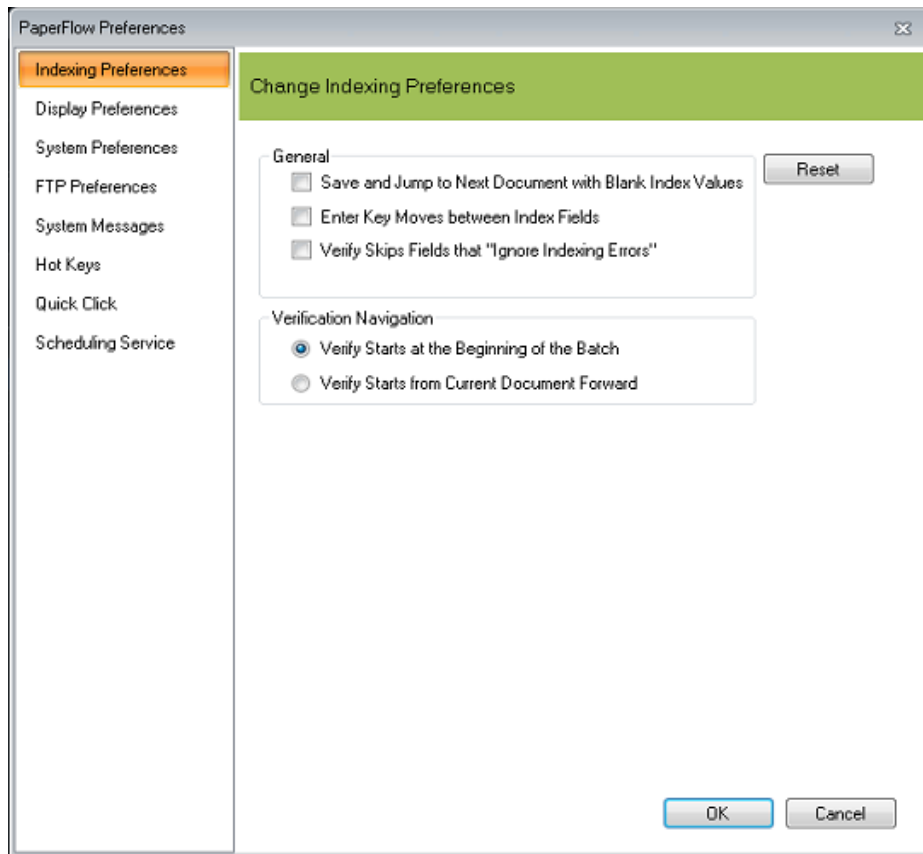
Preferences

From the **PaperFlow** button, you can configure the following: indexing preferences, display and system preferences, FTP, system messages, hot keys, quick click, and scheduling service. To access these settings,


select the **PaperFlow** button  , and then select the **Preferences** icon.

- [Indexing Preferences](#) allows you to customize hand-key indexing settings specific to individual workstations.
- [Display Preferences](#) define how single- and multiple-page documents display on-screen and how index verification is performed.
- [System Preferences](#) define page/document navigation, System Tray, and Default Job Path settings.
- [FTP Preferences](#) allows you to determine whether FTP error messages should appear and the subsequent action taken should an error occur.
- [System Messages](#) allows you to display or suppress confirmation messages that appear during specific operations.
- [Hot Keys](#) enables you to personalize hot key settings.
- [Quick Click](#) enables you to toggle tooltip and Docking window options on and off.
- [Scheduling Service](#) enables you to configure how scheduled tasks behave

Indexing Preferences



Indexing Preferences

To view the list of indexing preferences, select the **PaperFlow** button , and then select the **Preferences** icon. Within the Indexing Preferences screen, you can select how to progress between documents and index fields. You can also determine where the index verification process begins in the batch.

General

If you are tasked to enter index values, you can enable the following indexing settings:


- To save the current index values and proceed to the next document that contains blank index values, select **Save and Jump to Next Document with Blank Index Values**.
- To use the **Enter** key to move between index fields, select **Enter Key Moves Between Index Fields**.
- If you want the index verification process to skip fields that ignore an invalid index value, select **Verify Skips Fields that “Ignore Indexing Errors.”**

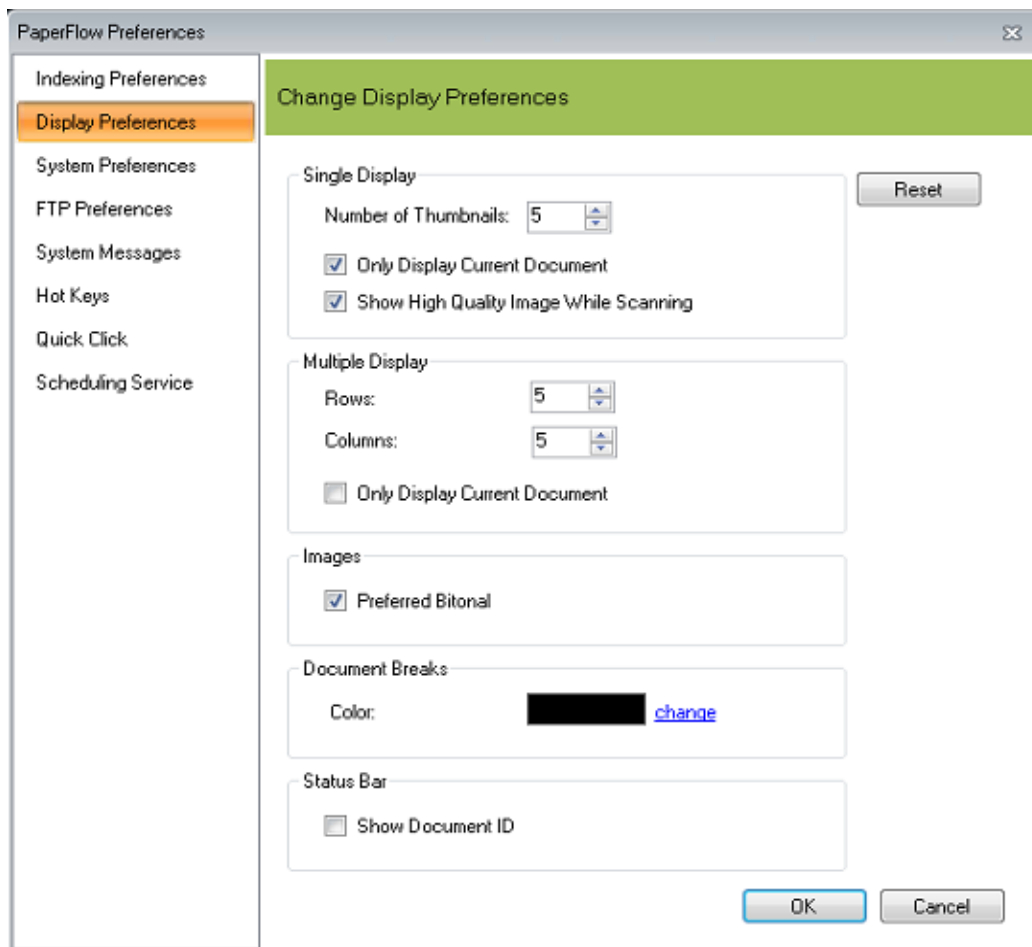
Verification Navigation

You can select the location in the batch where the index verification process begins.

- To start the index verification process at the beginning of a batch, select **Verify Starts at the Beginning of the Batch**.
- To start the index verification process from the current document forward, select **Verify Starts from Current Document Forward**.

Display Preferences

To view the list of display preferences, select the **PaperFlow** button , and then select the **Preferences** icon. In the Display Preferences screen, you can manipulate the single- and multiple-page display options. Additionally, you can customize the image display quality for thumbnail views.



Display Preferences

Single Display

If you view images in single display (**View page > Single Display**), only one image appears at a time in the main viewing window. Optionally, you can use the Thumbnails window to preview a specified number of images.

- To preview document(s) as thumbnails, enter the number to display at a time in the Number of Thumbnails.
- If you want to display only one document at a time, select **Only Display Current Document**. Leave this check box blank to view all of the documents in the batch.
- If you want to display a high quality image while scanning documents, select **Show High Quality Image While Scanning**. When this option is enabled, scanning speeds will decrease.

Multiple Display

You can view multiple images at a time in the main window (**View page > Multiple Display**) and specify how many images appear per row and column.

- For multiple-page documents, enter the number of rows/columns to display at a time in the **Rows** and **Columns** fields.
- Select **Only Display Current Document** to view only the current document in the batch. Leave this check box blank to view all of the documents in the batch.

Images

- Select the **Preferred Bitonal** setting for dual-stream scanners.

Document Breaks


You can specify the color of the document breaks in the thumbnail viewer.

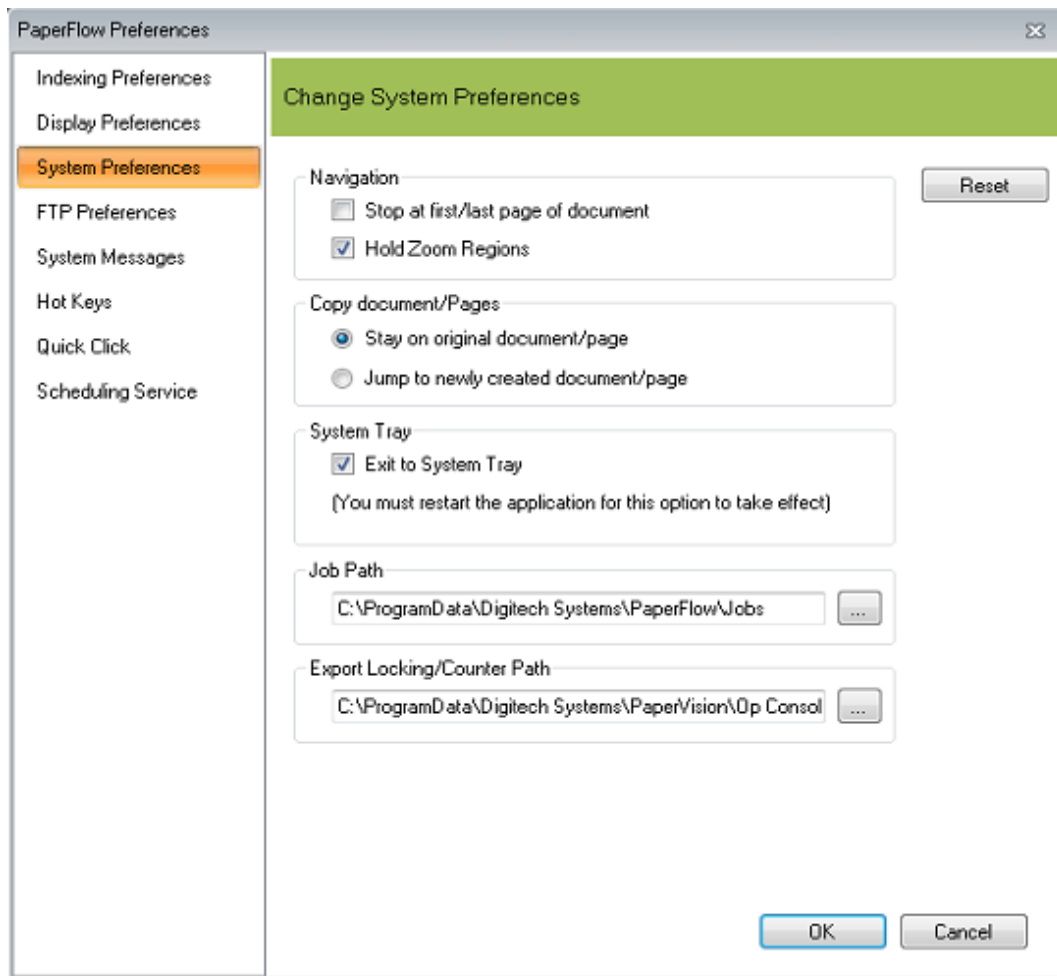
1. Click the **change** link to display the **Color** dialog box.
2. Pick the color you want for a document break, or click **Define Custom Colors** to add additional custom color options.
3. Click **OK** to save your color choice and return to the **Display Preferences** dialog box.
4. Click **OK** to apply your changes.

Status Bar

- Select **Show Document ID** to display the document ID in the status bar.

System Preferences

To view the list of system preferences, select the **PaperFlow** button , and then select the **Preferences** icon. The System Preferences screen contains document/page navigation, System Tray, and Default Job Path settings.



System Preferences

Navigation

If you enable **Stop at first/last page of document**, a message appears if you attempt to navigate before the first page/document or beyond the last page/document. When this option is disabled and you navigate to the previous page of a document (when you are already on the first page), you are taken to the last page of the current document. Conversely, when you navigate to the next page of a document (when you are already on the last page), you are taken to the first page of the current document. The same results occur when you move between documents. Each time the message appears, you can choose to suppress the message in the future.



First/Last Page Message

Hold Zoom Regions



If you enable the **Hold Zoom Regions** setting, a zoom region that you set within an image will be retained as you navigate through the document.

Copy Document/Pages

This option assigns whether the original document/page (**Stay on original document/page**) or the copied document/page (**Jump to newly created document/page**) will open after you copy the existing document or page.

System Tray

When you exit PaperFlow or PaperFlow NOW!, both applications will automatically minimize to the System Tray by default (instead of completely shutting down). When this option is enabled, you can quickly resume

running an application by right-clicking the PaperFlow  or PaperFlow NOW!  icon in the System Tray, and then selecting **Open PaperFlow** (or **Open PaperFlow NOW!**). Alternatively, you can close (shut down) an application by selecting the **Shut Down PaperFlow** (or **Shut Down PaperFlow NOW!**) option in the System Tray.

If you do not want the applications to minimize to the System Tray by default (and completely shut down upon exiting), disable the **Exit to System Tray** option.

Note: If you disable or enable the **Exit to System Tray** option, you must restart (close and reopen) the application for the option to take effect.

Job Path

The Job Path stores PaperFlow job configurations. This path can be a local path or a network-accessible shared path such as **\\SERVER_NAME\SHARE**. Job configurations are named with the .PVCJOB extension and are stored by default in the local Application Data (or, AppData)\Digitech Systems\PaperFlow\Jobs folder.

Note: If the directory to which you want to change the default job path does not exist, an error message will be displayed. The directory must be created before changing the default job to it.

The following guidelines summarize how job path permissions and modifications are handled in PaperFlow:

- The read/write permissions assigned in Windows determine who can view and modify PaperFlow jobs. For example, if jobs are saved to "C:\ProgramData\Digitech Systems\PaperFlow\Jobs" and you have read-only permissions to the Jobs folder, you cannot save any changes made to the job configuration. If you have not been granted access to the Jobs folder, then you will not see any jobs stored in that location.

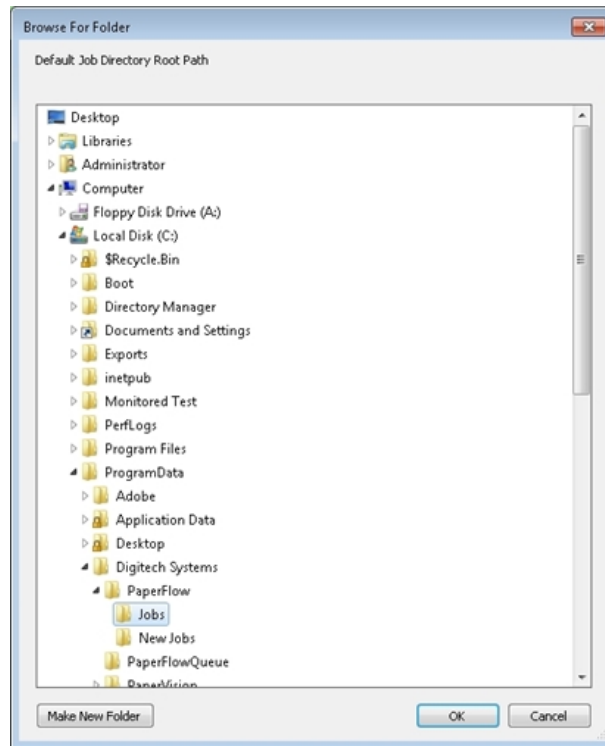
Note: A user must be granted full read/write access to the Default Job Path in order to view jobs and make changes to job configurations.

- If multiple users make changes to the same job (concurrently from different workstations), only the most recent changes will be saved. In this scenario, any modifications made prior to the latest change may not be saved.
- If a job with one or more active batches is modified, active batches will not be impacted. For example, User A is currently working on a batch for Job 1. User B modified and saved Job 1's configuration while User A was still working on the batch. As a result, User A can continue to work on the batch, as it will not be impacted by the job modification.
- If you change the Default Job Path after you have created and saved jobs in the original location, only jobs from the updated location will be displayed when you create new batches (depending on permissions). For example, you changed the job path from "C:\ProgramData\Digitech Systems\PaperFlow\Jobs" to "C:\ProgramData\Digitech Systems\PaperFlow\New Jobs" and created and saved jobs in the new location. When you create new batches, only jobs saved in the new location will be available for selection (from the "Use Existing Job" list in the New Batch Wizard).

Changing the Job Path

To change the Default Job Path

1. Enter the location of the **Default Job Path**, or click the ellipsis button to browse to the location. The **Browse for Folder** dialog box appears.



Browse for Folder

2. Highlight the new location, and then click **OK**.
3. Click **OK** in the **System Preferences** screen.

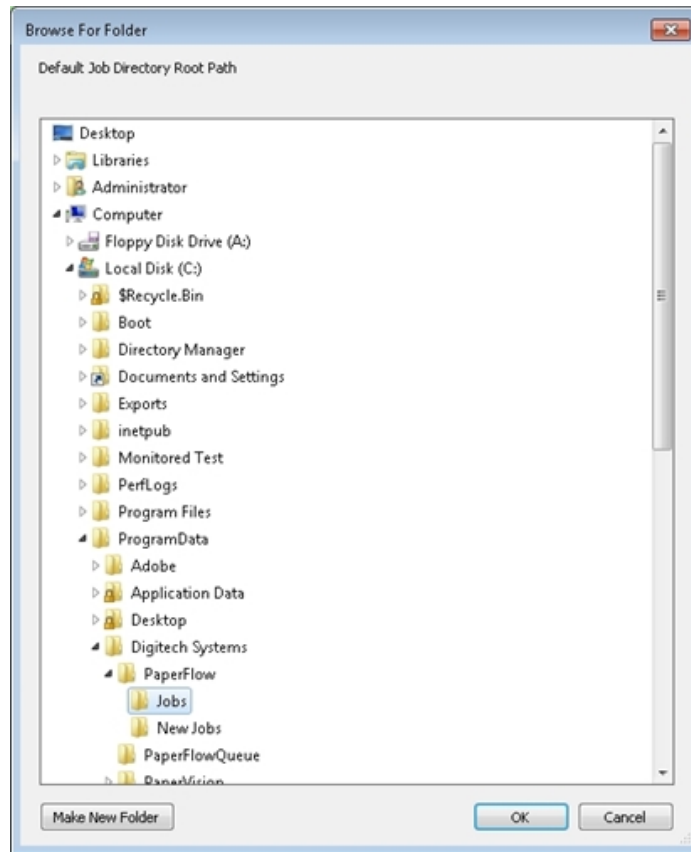
Export Locking Path

The Export Locking Path is used to manage exports and the associated export folder names. The default locking path is <local batch path>\ExportLocking. If PaperFlow is setup on two or more machines that are configured to export to a shared location, the export locking path should also be moved to a shared network location. This prevents each instance of the application from re-using export folders and corrupting data exports.

Note: If the directory to which you want to change the default Export Locking Path does not exist, an error message will be displayed. The directory must be created before changing the default Export Locking Path to it.

To change the Export Locking Path

1. Enter the location of the **Export Locking Path**, or click the ellipsis button to browse to the location. The **Browse for Folder** dialog box appears.

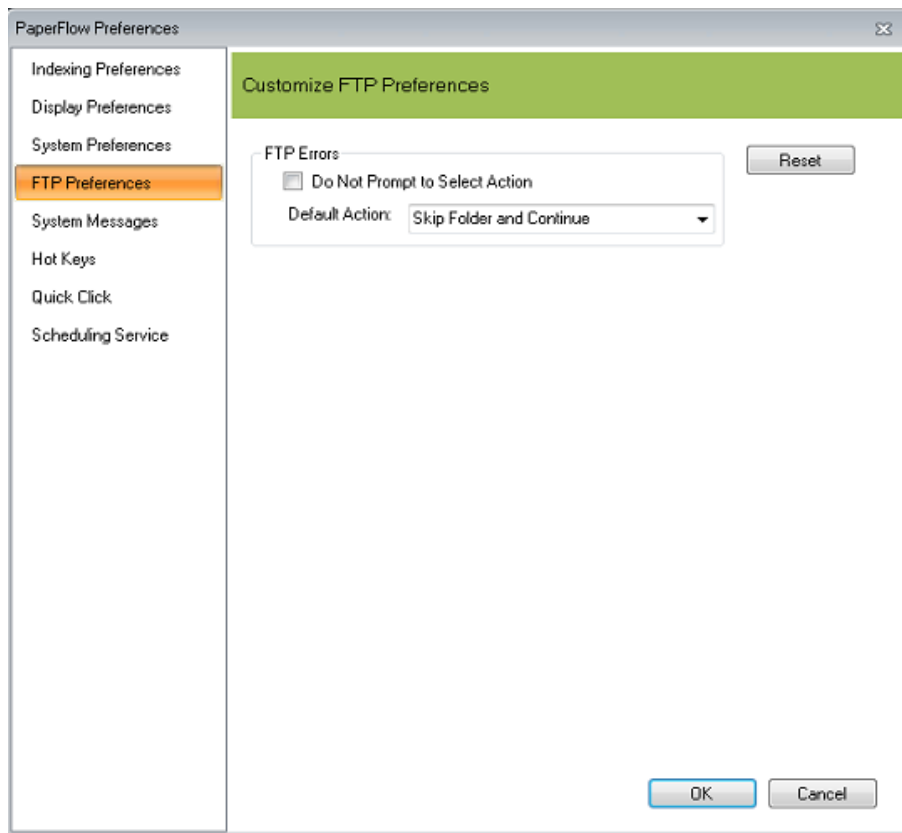


Browse for Folder

2. Highlight the new location, and then click **OK**.
3. Click **OK** in the **System Preferences** screen.

FTP Preferences


If you use the PaperFlow or ImageSilo/PVE XML exports to send data to ImageSilo and other FTP sites, you can determine whether FTP notifications should appear each time an error occurs during FTP transmission. To suppress FTP error messages and select a default action that will automatically occur should FTP fail to process, select **Do Not Prompt to Select Action**. Then, select the **Default Action** from the drop-down list.

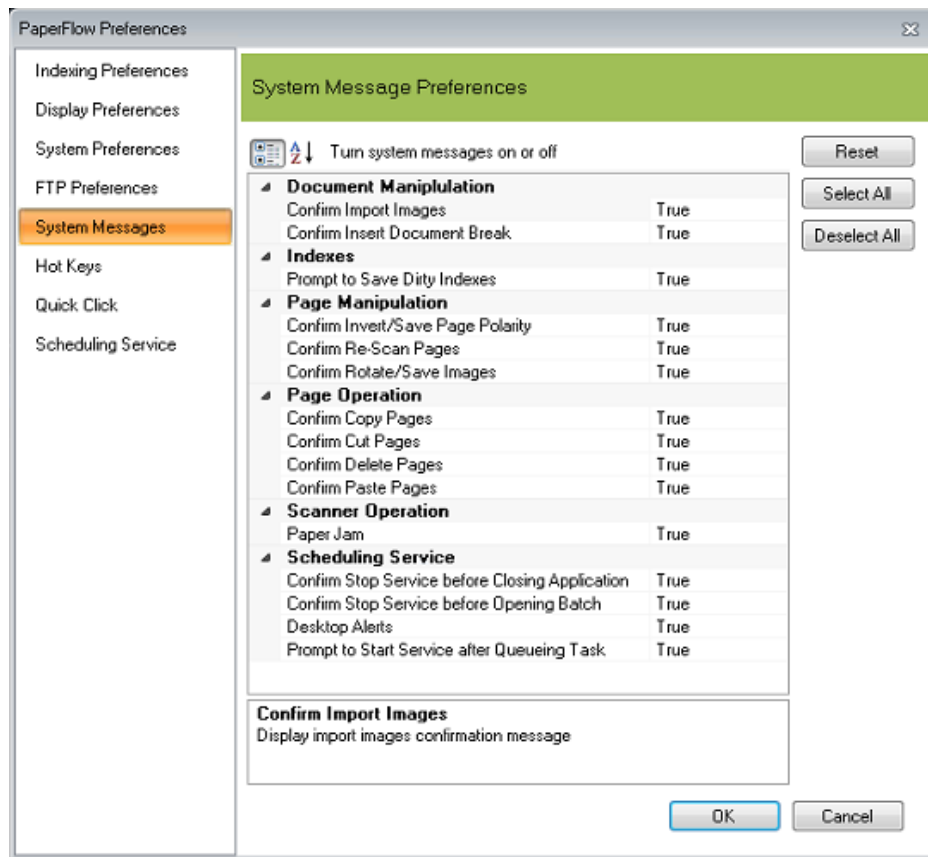


FTP Preferences

System Messages

During specific operations in the application, such as cutting/pasting, copying/pasting, and deleting pages, you are presented with a confirmation message before the operation executes. To view the list of

confirmation messages, select the **PaperFlow**  button, and then select the **Preferences** icon. In the **System Messages** screen, you can enable or suppress confirmation messages that appear during specific events. The following confirmation messages appear by default (except for scanner paper jam messages). However, when these messages appear, you can enable the options (e.g., Suppress future copy pages messages), so these messages do not appear each time you execute the operation.



System Messages

System messages for the following operations can be enabled or suppressed:

Document Manipulation

- Import Images
- Insert Document Break

Indexes

- Prompt to Save Dirty Indexes

Page Manipulation

- Invert Save Pages Polarity
- Re-Scan Pages
- Rotate Save Images

Page Operations

- Copy Pages
- Cut Pages

- Delete Pages
- Paste Pages


Scanner Operation

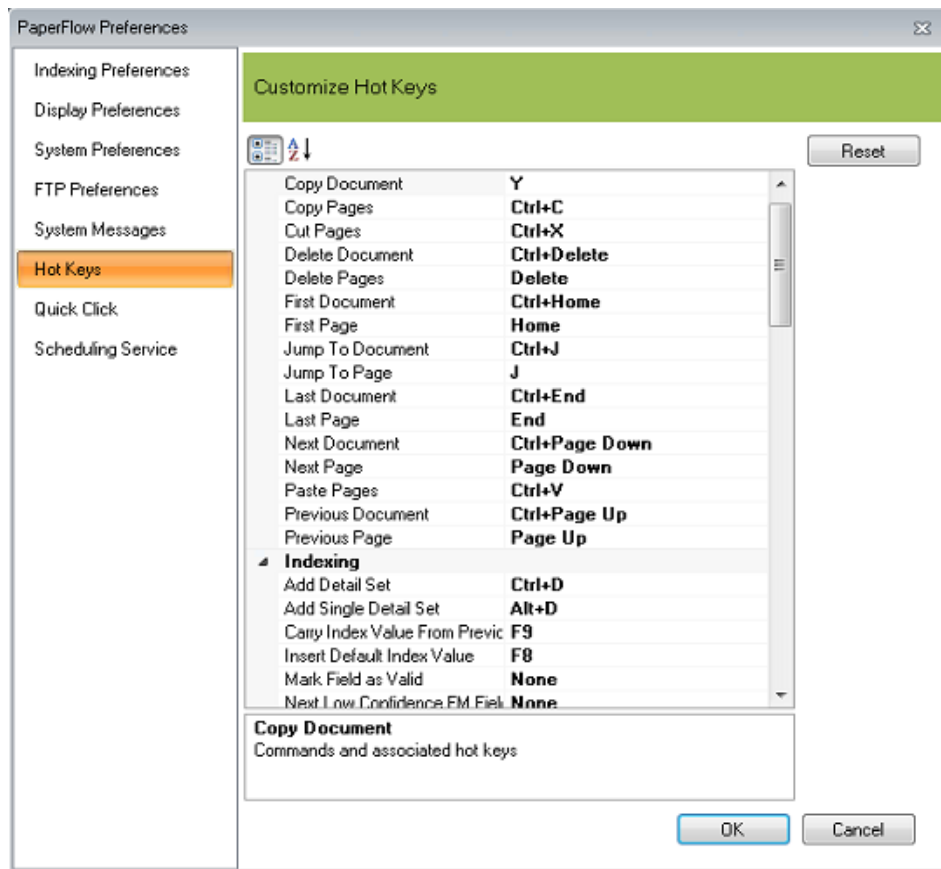
- Paper Jam

Scheduling Service

- **Confirm Stop Service before Closing Application** - When set to true, a confirmation message is displayed before the application is closed.
- **Confirm Stop Service before Opening Batch** - When set to true, a confirmation message is displayed before the batch is opened.
- **Desktop Alerts** - When set to true, desktop alerts for stopping and starting the service are displayed.
- **Prompt to Start Service Queuing Task** - When set to true, the service starts immediately after queuing up a task from the Scheduling Service tab.

Hot Keys

To view the list of system hot keys, select the **PaperFlow**  button and then select the **Preferences** icon. In the **Hot Keys** tab, you can customize the default hot key settings described below.



Hot Keys

The **Customize Hot Keys** screen includes the following sorting views:

- To view properties by category, click the **Categorized** icon.
- To view properties in alphabetical order, click the **Alphabetical** icon.

Batch Navigation

- Copy Document: Y
- Copy Pages: Ctrl+C
- Cut Pages: Ctrl+X
- Delete Document: Ctrl+Delete
- Delete Pages: Delete
- First Document: Ctrl+Home
- First Page: Home
- Jump to Document: Ctrl+J
- Jump to Page: J

- Last Document: Ctrl+End
- Last Page: End
- Next Document: Ctrl+Page Down
- Next Page: Page Down
- Paste Pages: Ctrl+V
- Previous Document: Ctrl+Page Up
- Previous Page: Page Up

Indexing

- Add Detail Set: Ctrl+D
- Add Single Detail Set - Alt+D
- Carry Index Value From Previous Document: F9
- Insert Default Index Value: F8
- Verify Index Values: F7

Scanning

- Configure Scanner Settings: E
- Decrease Brightness: Shift+F2
- Decrease Contrast: Shift+F4
- Increase Brightness: F2
- Increase Contrast: F4
- Insert Pages After: Ctrl+A
- Insert Pages Before: Ctrl+B
- Mark New Document and Scan: M
- Re-Scan Page: A
- Saved Scanner Profiles: Shift+F6
- Scan One Page: O
- Scan Pages : S
- Stop Scanner: Escape

Note: The Single Display and Multiple Display commands can be configured using the hot keys that you define. By default, these commands are undefined.

Standard

- Add Document: Shift+Ctrl+A
- Batch Information: Ctrl+I

- Clear Filters: Shift+Ctrl+F
- Document History: Ctrl+H
- Help Topics: F1
- Image Information: I
- Insert Document Break: Ctrl+Insert
- Merge Index Values: F5
- Merge Like Documents: Ctrl+F5
- Print Current Document: P
- Remove Document Break: Ctrl+R
- Re-Save Page: V
- Reset Image: Ctrl+T
- Rotate 90° : R
- Scale to Height: H
- Scale to Width: W
- Scale to Window: Ctrl+W
- Scroll Image Down: Ctrl+Down Arrow
- Scroll Image Left: Ctrl+Left Arrow
- Scroll Image Right: Ctrl+Right Arrow
- Scroll Image Up: Ctrl+Up Arrow
- Set Focus to Browse Batch: F6
- Set Focus to Indexing Window: Ctrl+Q
- Shuffle Document to Duplex: U
- Zoom In: Ctrl+Plus Sign
- Zoom Out: Ctrl+Minus Sign

Additional Standard Hot Keys

Although the following commands are undefined by default, you can configure these as well.

- About
- Auto Import
- Execute Custom Code
- Exit Application
- Help Manual
- Import Images
- Invert Page Polarity
- Invert and Save Page Polarity

- Match and Merge, Entire Batch
- Move to Next Field
- Move to Previous Field
- Options
- Preferred Bitonal
- Rotate 270°
- Rotate and Save Images

Customizing Hot Keys

You can customize hot keys for any of the commands found on this screen.

To customize hot keys

1. Expand the main category node (**Batch Navigation, Indexing, Scanning, or Standard**).
2. Click the row of the command to modify.
3. Open the drop-down menu in the right column, which opens the dialog box below.

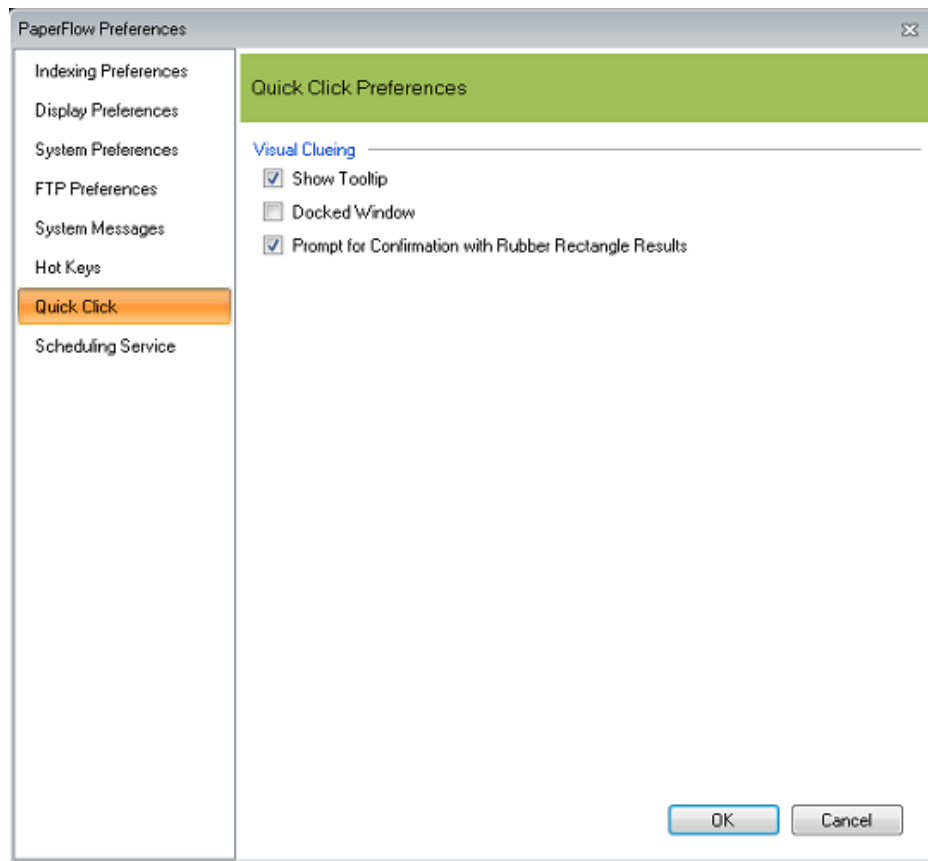
The dialog box is titled 'Hot Key dialog'. It features a 'Key' dropdown menu currently set to 'C'. Below the dropdown are three checkboxes: 'Alt' (unchecked), 'Shift' (unchecked), and 'Ctrl' (checked).

Hot Key dialog

4. Select from the **Key** drop-down list.
5. Select the additional keys (**Alt, Shift, or Ctrl**) that comprise the hot key setting (optional).
6. Click outside the command row to apply the changes.

Quick Click

1. To view the list of system hot keys, select the **PaperFlow**  button, and then select the **Preferences** icon. In the **Quick Click** tab, you can customize the default quick click settings described below.



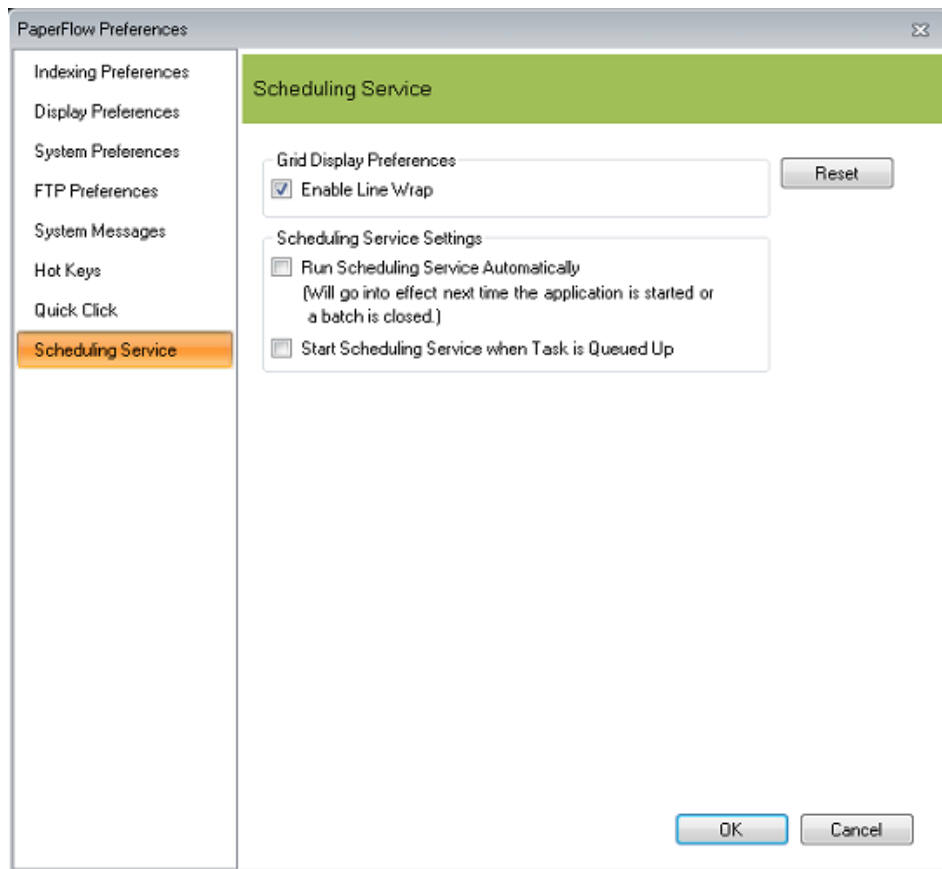
Quick Click Preferences

2. Make your selections:
 - **Show Tooltip** - Toggles the tooltip for Quick Click on and off. Tooltips only appear when you drag the crosshair cursor around a text area. They do not appear when the quick-click cursor rests over a single word.
 - **Docked Window** - If checked, a docked window is displayed to provide a visual clue of the words selected.
 - **Prompt for Confirmation with Rubber Rectangle Results** - When Quick Click's rubber rectangle tool is used to pool text, the system will display the data before putting it into the index. If the data was not recognized correctly, you can delete it and attempt to the process again.
3. Click **OK** to save your selections.

Scheduling Service Preferences

To change the Scheduling Service Preferences

1. Click the **PaperFlow Button** , and then select the **Preferences** icon.
2. Select Scheduling Service.




Scheduling Service Preferences

3. Configure the scheduling services by selecting appropriate options:
 - **Enable Line Wrap** - This option wraps text in the fields in the Batch table displayed in the Scheduling Service tab.
 - **Run Scheduling Service Automatically** - This option starts the scheduled options automatically when the batch is closed.
 - **Start Scheduling Service when Task is Queued Up** - This option starts the scheduled service when the task is manually queued up.
4. Click **OK** to save the changes.

New Batch Wizard

Once you have successfully installed and launched PaperFlow, you must create a new job and batch from which to execute scanning, indexing, barcoding, exporting, etc., operations. As described in the [Welcome](#) topic, a job is a defined process comprised of one or more manual or automated tasks (e.g., scanning, indexing, and exporting documents) through which batches are processed. A batch is a collection of documents and their associated index name-value pairs and statistics that are moved as a logical unit of work through a job.

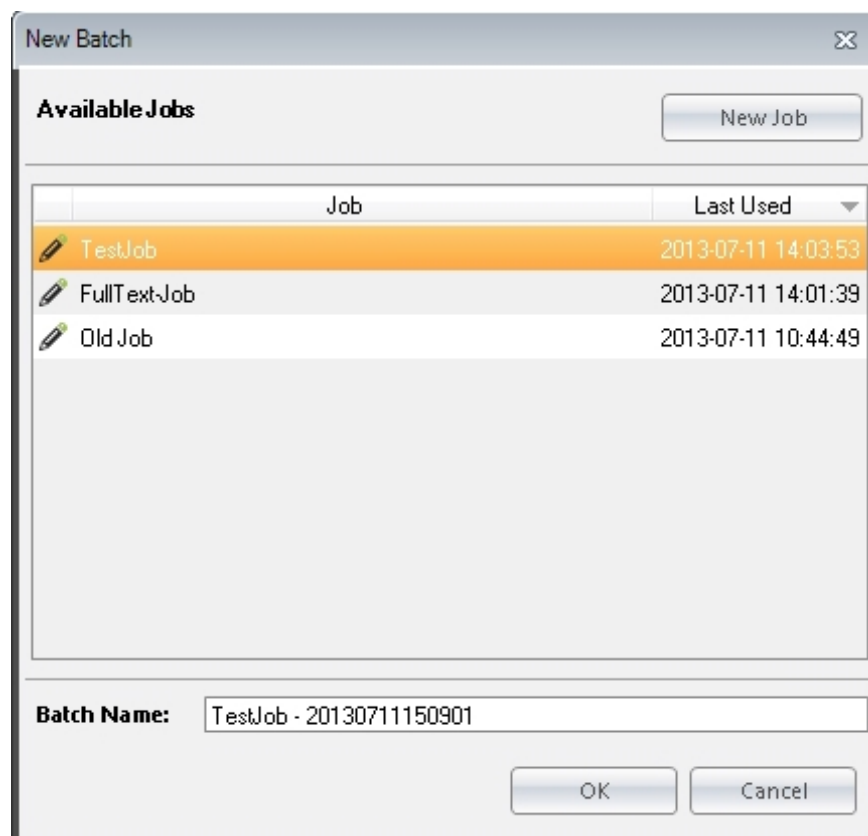
You can create new jobs and batches with the **New Batch** operation that is accessible in the **Home** page.

Alternatively, you can create new jobs and batches from the **PaperFlow** button  located on the upper left side of the **Start** or **Home** pages. In the **New Batch Wizard**, you can also select an existing job from which to create a new batch of documents. Once you create a job, you can save the job in a local directory that can be used repeatedly by any user who logs into the computer to use PaperFlow.

Note: Batch names must be unique.

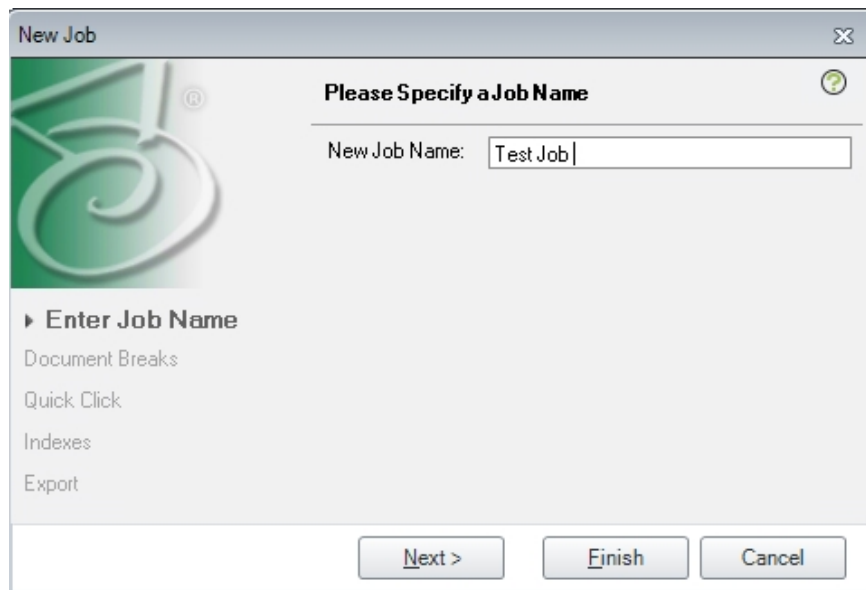
Creating a New Batch

1. Click the **PaperFlow**  button, and then select **New Batch**. The **New Batch - Available Jobs** dialog box opens.



New Batch- Available Jobs dialog

2. Do one of the following:
 - To use an existing job, select the job from the list of **Available Jobs** and then click **OK**. Go to step 11.
 - To create a new job for the batch, click the **New Job** button. The **New Job** wizard displays. Go to step 3 to continue configuring the job.

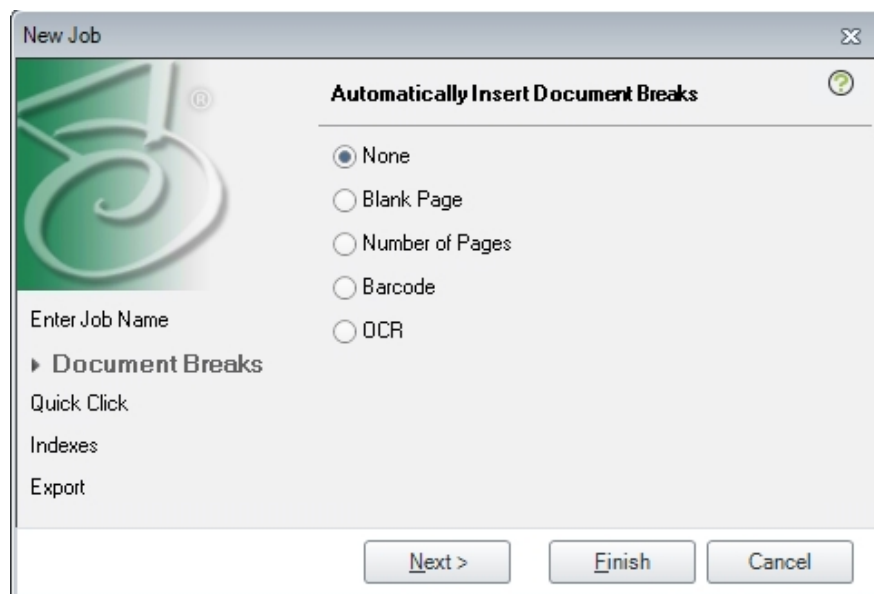


New Job - New Job Name

3. Enter a name for the job and click **Finish** to complete the task, or click **Next** to continue configuring the job.
4. At the **Document Break** tab, select a document break for this job.

None

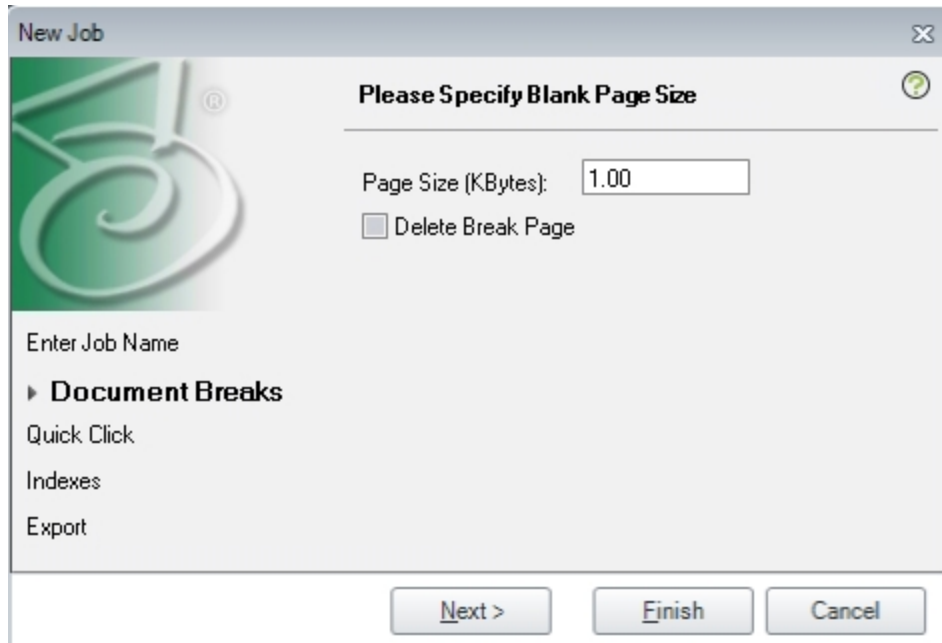
No document breaks will exist in this job.



New Job - Automatically Insert Document Breaks

Blank Page

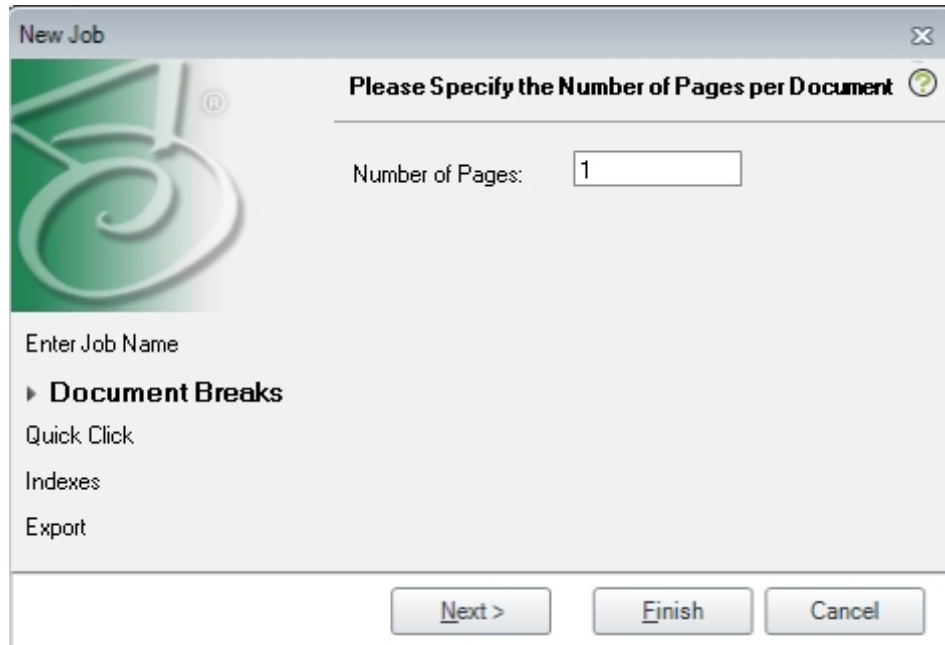
A blank page will be used to initiate a document break in a job.



New Job - Blank Page Document Break

- a. Complete the following fields:
 - **Page Size in (KBytes)** - enter the smallest size (in KBytes) that a blank page must be to initiate a page break.
 - **Delete Break Page** - Select this option to have the blank page deleted after processing.
- b. Click **Next** to continue configuring the job.

Number of Pages



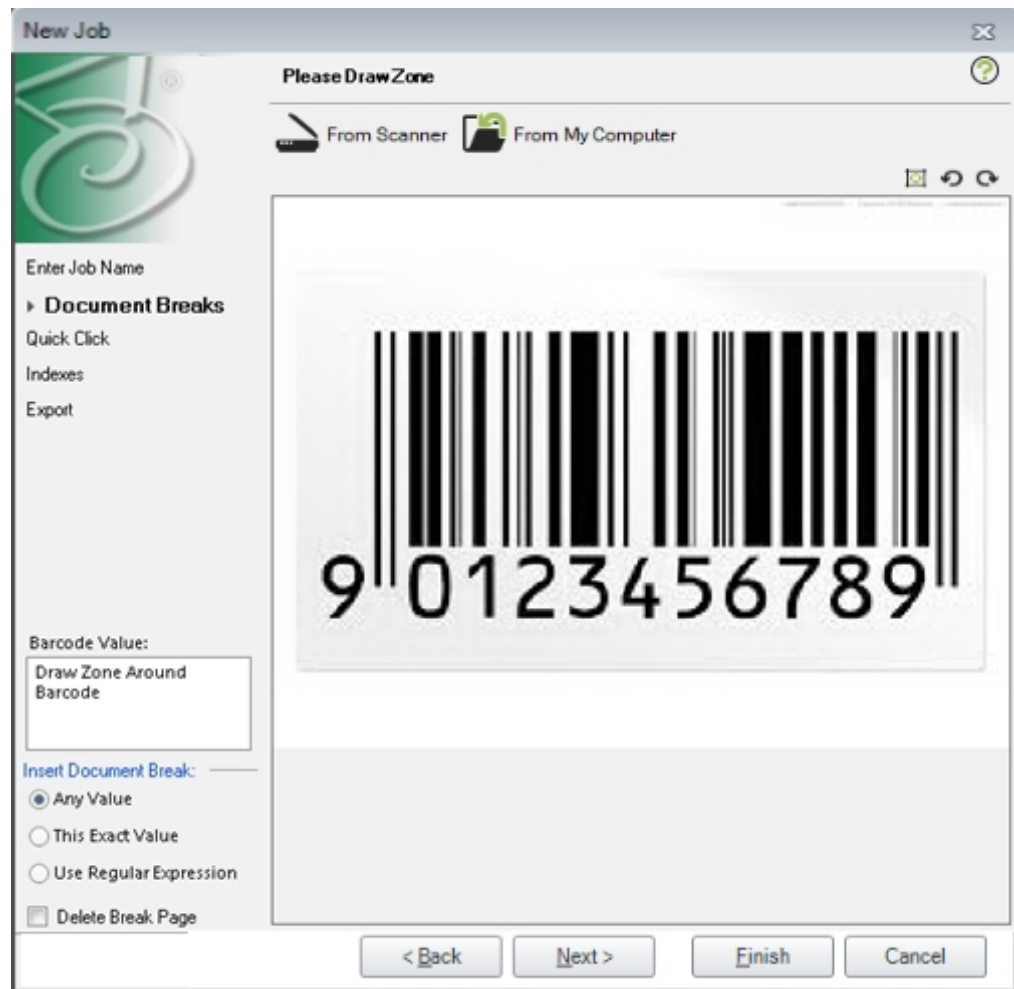
New Job - Specify the Number of Pages per Document

Enter the number of pages that must be scanned before a document break will be initiated.

Barcode

Enter the barcode to be used to initiate a document break.

- a. Load the barcode image from a computer or from a scanner. When the barcode is loaded, four options appear at the bottom left of the screen.



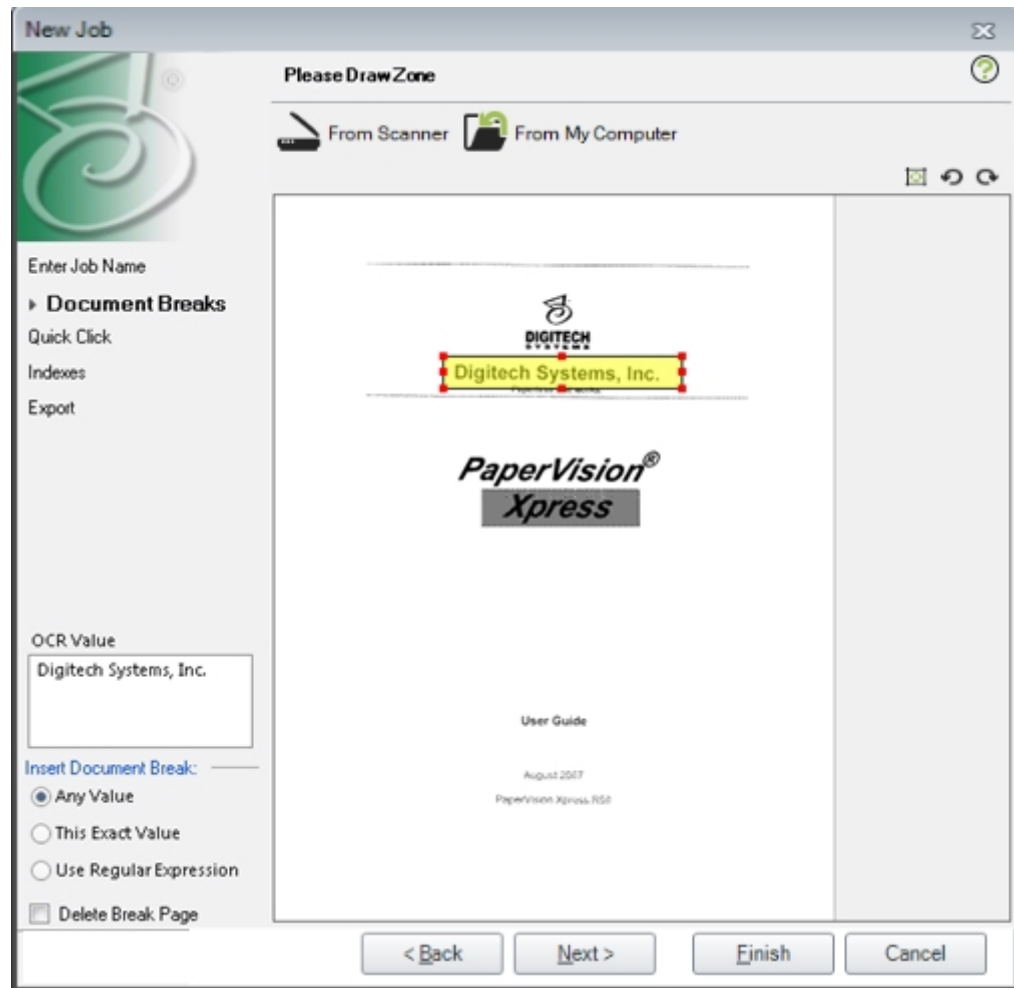
New Job - Barcode Doc Break

- b. Select one of the following values:
- **Any Value** - The system will use any value within the selected region to perform a document break.
 - **This Exact Value** - A document break will only be initiated when this specific value is found in the barcode.
 - **Use Regular Expression** - Select this option to use a Regular Expression for the document break.
 - **Delete Break Page** - Select this option to have the break page deleted after the document is scanned.

OCR

Select the OCR region to be used to initiate a document break. The OCR region can be loaded from a computer or from a scanner.

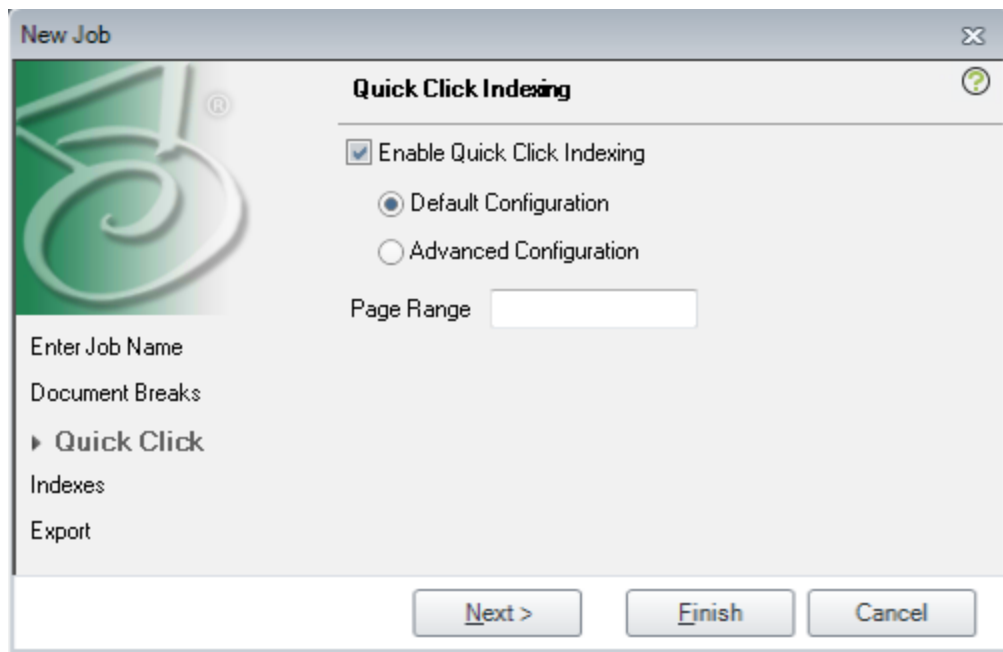
- a. Load the image from a computer or from a scanner. When the image is loaded, four options appear at the bottom left of the screen.



New Job - Select Image dialog

- b. Select one of the following values:
 - **Any Value** - The system will use any value to perform a document break.
 - **This Exact Value** - A document break will only be initiated when this specific value is found in the OCR region.
 - **Use Regular Expression** - Select this option to use a Regular Expression for the document break.
 - **Delete Break Page** - Select this option to have the break page deleted after the document is scanned.
5. At the **Quick Click** dialog, select the configuration option needed for the point and click operation.

Quick Click

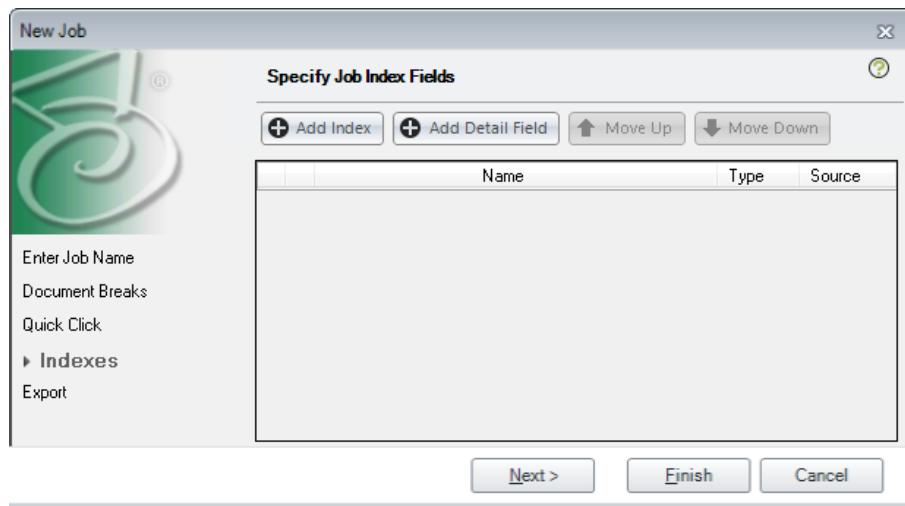


New Job - Quick Click Indexing

- a. Select from the following options:
 - **Default Configuration** - The default configuration feature automatically moves the focus to the next index field after a word is selected for the current index field.
 - **Advanced Configuration** - The user has the ability to specify when the Quick Click engine will stop on an index field. This is configured in the Job Indexes dialog.
 - b. **Page Range** - Select from the following options:
 - Type the page number for which you want to generate Quick Click data.
 - Type the page range for which you want to generate Quick Click data.
 - Leave blank to generate Quick Click data for all pages.
 - c. Click **Next**.
6. At the **Index** dialog, configure the index properties for the job. Both index and detail fields are configured in the indexes dialog

Index

The **New Job - Specify the Job Indexes** dialog displays. Both Index and Detail fields are configured from this dialog.



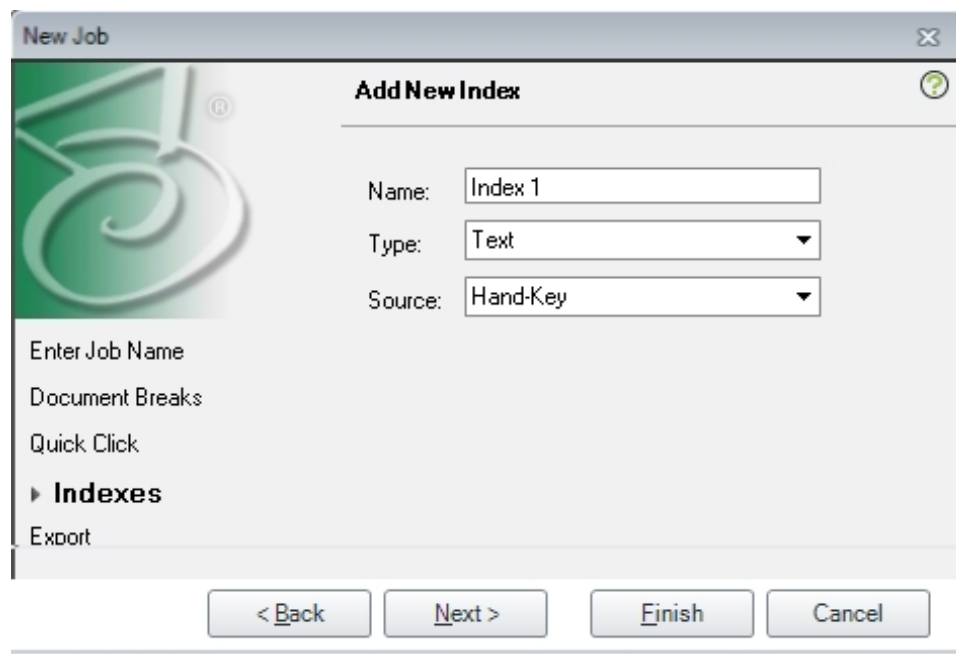
New Job - Specify the Job Indexes

Add Index Field(s)

At the **New Job - Specify the Job Indexes** dialog, select the type of field to add by clicking the **Index** button or the **Detail** button.

To add an Index field

- a. Click the **Add Index** button in the **New Job - Specify the Job Indexes** dialog.



New Job - Add New Index

- b. Complete the following fields:
 - **Name** - Enter a name for the index field
 - **Type** - select a [type](#) from the drop-down list for the index field
 - **Source** - select how the source for the index field will be entered:
 - **Hand-Key** - The user will key in the index source.
 - **Barcode** - The index source will be represented by a barcode.
 - **OCR** - The index source will be read from an OCR region on the page.
- c. Repeat the previous step for each index field to be added to the job. Click Next when the all of the index fields have been entered.

Add Detail Field(s)

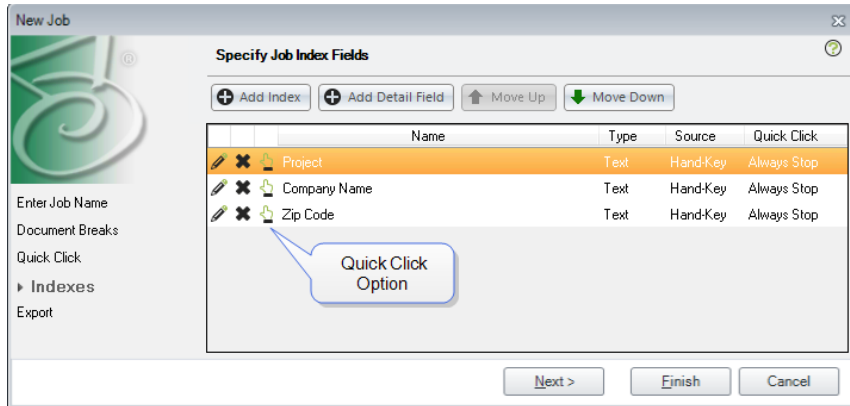
New Job - Add New Detail Field

To add a detail field

- a. Click the **Add Detail Field** button in the **New Job - Specify the Job Indexes** dialog.
- b. Complete the following fields:
 - **Name** - Enter a name for the index field.
 - **Type** - select a [type](#) from the drop-down list for the index field.
 - **Source** - select how the source for the index field will be entered:
 - **Hand-Key** - The user will key in the index source.
 - **Barcode** - The index source will be represented by a barcode.
 - **OCR** - The index source will be read from an OCR region on the page.
- c. Repeat the previous step for each detail field to be added to the job.

Quick Click Configuration

If Advanced Quick Click was selected in the previous step, how Quick Click behaves must be configured. When Advanced Configuration is selected in the Quick Click option, the Quick Click icon appears in the Edit Job window under the Indexes option.



Edit Job - Quick Click Options Showing

- With the **Edit Job** dialog open, click the Quick Click configuration icon. The Advanced Quick Click Indexing window displays.

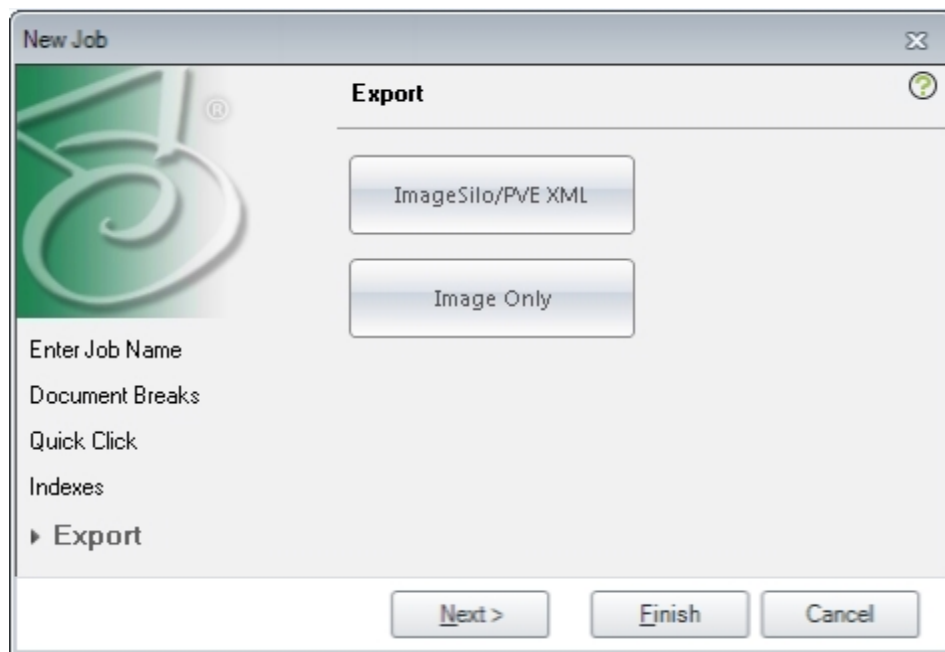


Quick Click Indexing

- b. Select the appropriate option:
 - **Always Stop** - This option causes the PaperFlow application to stop on this index field whether it is populated or not populated.
 - **Stop if Empty** - This option causes the PaperFlow application to stop on the index field only when it is empty.
 - **Stop if Populated** - This option causes the PaperFlow application to stop on the index field only when it is populated.
 - **Never Stop** - This option causes the PaperFlow application to always bypass the index field.
 - c. Click **Next** when the appropriate option is selected.
7. At the **Export** dialog, select the type of export to which this job will be associated.

Export

Use these instructions to configure the ImageSilo/PVE XML exports.



New Job - Export

ImageSilo/PVE XML Export

- a. Click the **ImageSilo/PVE XML** button to configure this export for this job.

ImageSilo/PVE XML

- b. Complete the following fields:
- **Image Format:** - Select the image format to be stored for this job:
 - **PDF** - Identifies the source files as PDF files.
 - **Original** - Identifies the source files as being in their original format.
 - **Tiff Single page** - Identifies the source files as a single page tiff file.
 - **Tiff Multiple pages** - Identifies the source files as a multiple page tiff file.
 - **Company Name:** Optionally enter a company name.
 - **Project Name:** Optionally enter a project name.
 - **FTP to ImageSilo:** - Optionally select this option to have the batch sent to ImageSilo:
 - **Username:** - Enter the username associated with the ImageSilo FTP account.
 - **Password:** - Enter the password associated with the ImageSilo FTP account.
 - **Show Advanced** - Click the **Show Advanced** button to use advanced features when configuring ImageSilo/PVE XML export
- c. Click **OK** to complete the Export configuration.

The **New Batch - Available Jobs** dialog appears with the newly created job displayed in the Jobs list.

Image Only Export

Use these instructions to configure Image Only exports.

- a. Click the **Image Only** button.

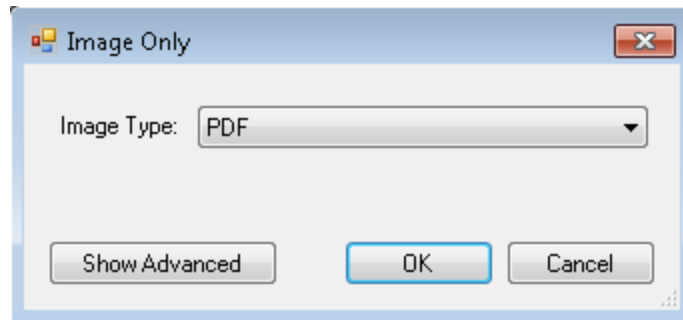
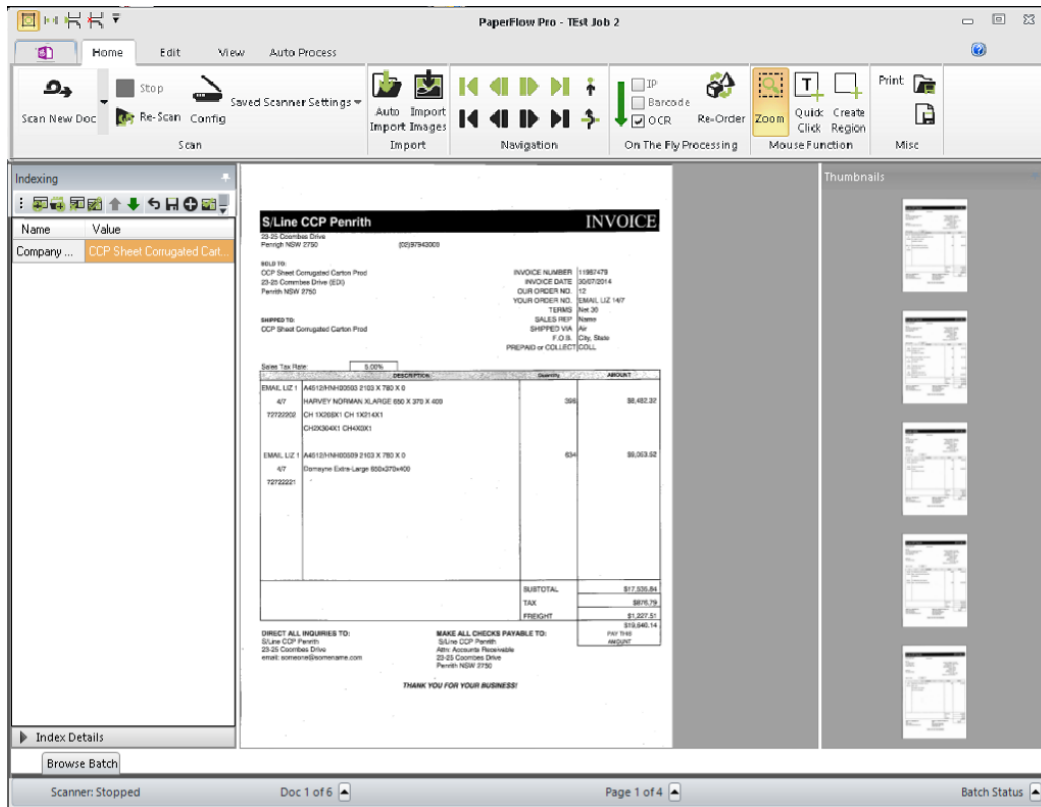


Image Only

- b. Complete the following fields:
 - **Image Type:** - Select the image type that will be used for this batch:
 - **PDF** - Identifies the source files as PDF files.
 - **Original** - Identifies the source files as being in their original format.
 - **Tiff - Single page** - Identifies the source file as a single page tiff file.
 - **Tiff - Multiple pages** - Identifies the source file as a multiple page tiff file.
 - **Show Advanced:** - Click the **Show Advanced** button to use advanced features when configuring ImageSilo/PVE XML export
 - c. Click **OK** to complete the Export configuration.
8. Click **Finish** to save the configuration.
 9. The **New Batch - Available Jobs** dialog displays with the newly created job displayed.
 10. Select your newly created job.
 11. Optionally enter a name for the batch or accept the default name. By default, the batch name is formatted using the job name, current year, month, day, hour, minute, and second (<Job Name> - yyyyymmddhhnss).

Note: The batch name must be unique within the same job.

12. Click **OK**. The **Home** page appears, where a scanner can be configured; documents can be scanned and indexed; on-the-fly processing can be enabled; etc. See the [Home Page](#) topic for more information.

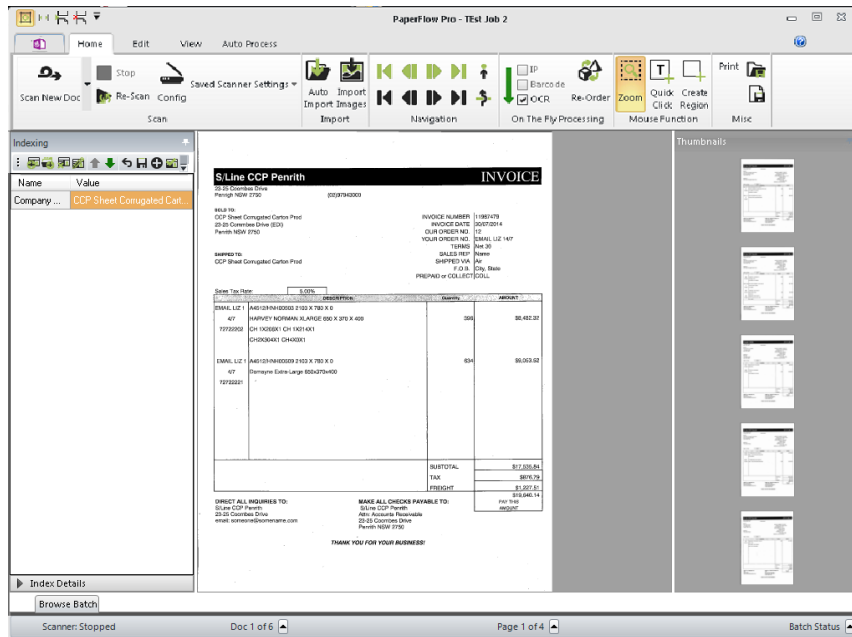


Home Page

Note: If you have activated a Demo license, "Demonstration" will appear in the title bar of the application.

Chapter 3 - Home Page

The Home page contains the application's primary scanning, zonal setup, Quick Click indexing, indexing and operations. You can also enable image processing, barcode, and zonal OCR processing on the fly while you scan documents in the Home page. General page and document navigation operations are also accessible in this page, such as First Page/Document, Next/Previous Page/Document, etc. If applicable, you can also apply zoom, barcode, and OCR zones directly on an image using the Region mouse function. The Auto Import operation allows you to manually import directories containing images. Auto Import creates a new document at the end of the current batch and then inserts the images.



Home Page

Thumbnails Window

You can customize the Thumbnails window to display a certain number of pages by selecting the **PaperFlow**



button > **Preferences > Display Preferences**. Thumbnails can help you navigate quickly through a document while previewing high-quality thumbnail images. In addition, you can perform basic operations in the Thumbnails window, such as cut, copy, and paste pages.

Indexing Window

The Indexing window provides both index configuration (see the [Basic and Advanced Index Properties](#) topic) and hand-key indexing (see the [Indexing](#) topic) functionality. You can add, edit, and delete index names, values, and detail sets within the Indexing window.

Browse Batch Window

The Browse Batch window, which is minimized by default, displays all documents, pages, and associated index values in the open batch. You can use the Browse Batch Filter to locate documents containing specific

index values (or, blank index values), document numbers, and page counts. As you type characters in any of the top **Filter** fields, only those documents containing your specified criteria will appear in the Browse Batch window.

You can use the toolbar or right-click operations in the Browse Batch window to execute operations on the batch. First, you can delete one or more documents and associated images from the batch. You can also print and export one or more documents' metadata to an XML file, such as index values, batch name/order, and number of pages. The Browse Batch Filter can help you locate documents by document position number, number of pages comprising the document, or specific index values. Additionally, you can reorder and hide columns within the grid with the Configure Grid operation.

To open the Browse Batch window, click the **Browse Batch** tab located on the lower left side of the **Home** page.

The screenshot shows the PaperFlow Pro - TEST Job 2 interface. The main window displays an invoice for S-Line CCP Penrith. The invoice details include:

NAME	VALUE
Company ...	CCP Sheet Corrugated Cart...

The invoice content includes:

S-Line CCP Penrith INVOICE
 23-25 Coorobies Drive Penrith NSW 2750 (02)97943000

INVOICE NUMBER: 11987478
 INVOICE DATE: 30/07/2014
 OUR ORDER NO: 12
 YOUR ORDER NO: EMAIL LIZ 147
 TERMS: Net 30
 SALES REP: Name
 SHIPPED VIA: Air
 F.O.B.: City, State
 PREPAID or COLLECT/COLL

EMAIL LIZ 1	DESCRIPTION	Quantity	AMOUNT
407	HARVEY NORMAN XLARGE 600 X 370 X 400	308	\$8,482.32
77722202	CH 13026X1 CH 14214X1		
	CH2K304X1 CH403X1		
407	Dymayne Extra-Large 600X370X400	634	\$8,063.52
72722221			

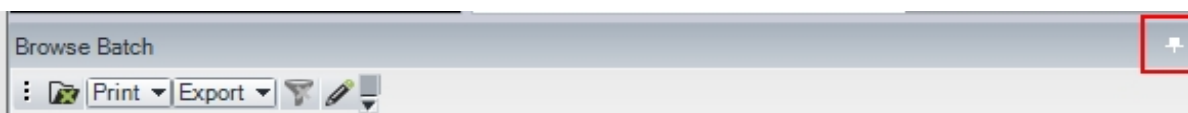
SUBTOTAL: \$17,535.84
 TAX: \$876.79
 FREIGHT: \$1,227.51
 PAY TYS: \$19,640.14
 AMOUNT

THANK YOU FOR YOUR BUSINESS!

A callout box labeled "Browse Batch Tab" points to the "Browse Batch" tab in the bottom left corner of the window.

Browse Batch Tab

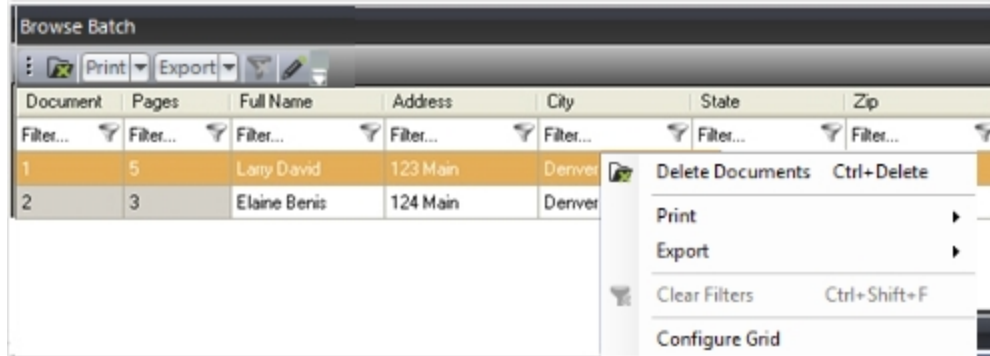
To pin the Browse Batch window in place, click the **Auto-Hide** pin located in the upper right side of the window.



Browse Batch Auto-Hide Pin

Browse Batch Window Operations

The following operations can be performed in the Browse Batch window using the toolbar or right-clicking in the window.



Browse Batch Window (and Right-Click Context Menu)

Note: The Print and Export operations export document metadata; they do not print nor export associated images.

To delete metadata for one or more documents

1. Highlight one or more rows.
2. Click **Delete Documents**.
3. To proceed with the deletion, click **Yes**.

To print metadata for one or more documents

1. Highlight one or more rows.
2. In the toolbar, choose from the following:
select **Print > Selected Rows**
or
select **Print > All Rows**
3. Select the printing parameters, and then click **OK**.

To export metadata for one or more documents

1. Highlight one or more rows.
2. In the toolbar, choose from the following:
select **Export > Selected Rows**.
or
select **Export > All Rows**.
3. In the **Save As** dialog box, browse to the appropriate directory where the XML file will be saved.

4. Enter the file name.
5. Click **Save**.

To clear all Browse Batch Filter criteria

- Right-click and select **Clear Filters**.

To reorder the columns

1. In the toolbar, click **Configure Grid**.

Note: If no indexes have been defined, the **Configure Grid** operation will be disabled.

2. In the **Show/Hide Columns** dialog box, highlight the column to move, and then select **Move Up** or **Move Down**.

Note: You cannot move the **Document** and **Pages** columns.

3. To restore the columns to their original order, click **Reset**.

To show or hide columns

1. In the toolbar, click **Configure Grid**.
2. In the **Show/Hide Columns** dialog box, select the columns to display in the **Browse Batch** grid.

Note: You cannot hide the Document and Pages columns.

3. To restore the original columns that will be displayed in the grid, click **Reset**.

Scanning New Documents

After you have configured your scanner, you can start the scanning process by clicking **Scan New Doc**. For information on all scanning operations, see the [Scanning Operations](#) topic.

Stopping the Scanning Process

To stop the scanning process

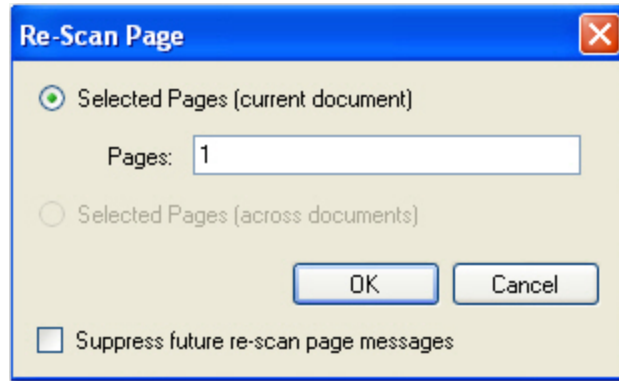
- click **Stop**.

Re-Scanning a Page

If a page did not scan properly, you can use the Re-Scan Page operation in the toolbar.

To re-scan a page:

1. Navigate to the page that needs to be re-scanned.
2. Click **Re-Scan**. The **Re-Scan Page** dialog appears.

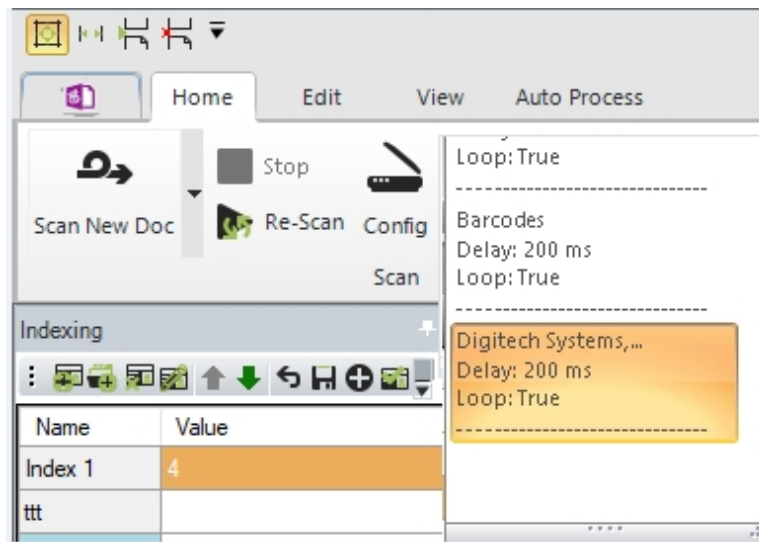
**Re-Scan Page**

3. Enter the page numbers in the current document or across documents to be scanned again. You can place commas between page numbers and insert dashes for page ranges (e.g., 1, 2, 3-5).
4. Click **OK**.

Note: Any image processing previously applied to the image will be removed when you rescan a page.

Configure the Scanner

The Config operation allows you to assign scanner settings. In the Home page, you can view all scanner profiles that you created by selecting the down arrow next to the current scanner profile in the **Scanning** toolbar group (you can also view a list of saved scanner profiles by pressing Shift+F6). To use a scanner profile, select the scanner profile from the drop-down list.



Scanner Profiles

Note: See the [Scanner Settings](#) topic for details on each setting.

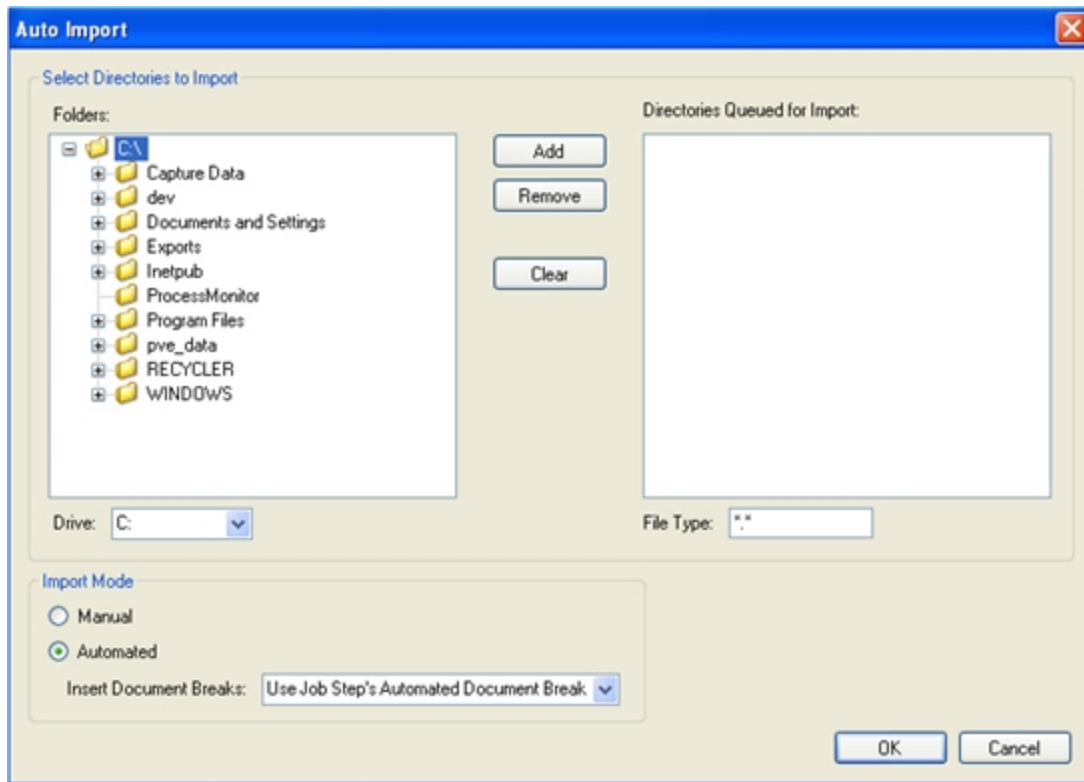
Batch Operations

Auto Import

The Auto Import operation allows you to manually import directories containing images. This operation creates a new document at the end of the current batch and then inserts the images.

To execute the Auto Import operation

1. Click **Auto Import**. The **Auto Import** dialog box opens.



Auto Import

2. In the **Select Directories to Import** section, highlight the directory and click **Add**.
3. Repeat the second step for each directory.

Note: A message appears if you attempt to import a directory that has already been added to the **Directories Queued for Import** list.

4. If applicable, select the drive from which to import the batch. By default, the contents of your local hard drive appear in the **Folders** list.
5. To remove one or more directories, highlight them in the **Directories Queued for Import** list, and then click **Remove**.

Note: Use the **Ctrl** key when you select multiple directories or the **Shift** key when you select multiple, consecutive directories.

6. To remove all selected directories, click **Clear**.
7. To specify an image file type to import, enter it in the **File Type** field.
8. To enter multiple image file types, use the filter format with semicolons placed between file types:

*.bmp; *.jpg; *.tif

9. In the **Import Mode** section, select **Manual** or **Automated**. If you select **Manual**, proceed to the next step. If you select **Automated**, proceed to step 11.
10. If you select the **Manual** option, the **Manual Auto Import** screen opens where you can save or skip certain images and insert document breaks. Additionally, you can rotate the pages, invert page polarity, and reset the page view. The progress bar at the bottom of the screen helps you navigate through the images by displaying batch, image, document, and page information.

Manual Auto Import Operations

- To save the image, click **Save Image**.
- To create a new document, click **Create New Document and save image**.
- To skip the image, open, click **Skip Image**.
- To invert the page polarity, open **View > Invert**, click **Invert**.
- To rotate the page view by 90 degrees clockwise, click **Rotate**.
- To reset the image to its original view, click **Reset**.
- To exit out of the screen, click **Exit**.

The following hot keys can be used in the Manual Auto Import screen:

- Save Image (Ctrl+S)
 - Create New Document and Save Image (Ctrl+Insert)
 - Skip Image (Ctrl+I)
 - Invert Page Polarity (Ctrl+N)
 - Rotate Image (R)
 - Reset Image (Ctrl+T)
 - Exit (Ctrl+E)
 - Help (F1)
11. If you select **Automated**, select from one of the following **Insert Document Break** options:
 - **Use Job Step's Auto-Document Break Setting** is assigned by your administrator. One of the three settings may have been assigned:
 - a. **None:** This is the default auto-document break type for a newly created step. When set to **None**, the system expects you to manually separate new documents.
 - b. **Number of Pages Per Document:** This is the total number of pages that PaperFlow will scan before starting a new document. Your administrator may have the system display a message that asks you for a fixed number of pages before breaking to a new document.
 - c. **Barcode:** Your administrator pre-defined barcode zones to be read during the scanning process.
 - **Each Directory** automatically imports images into multiple documents, placing a document break between each directory. For example, if you select a parent directory that contains subdirectories, document breaks are automatically inserted between the subdirectories.
 - **Each Image** automatically imports multi-page image files and separates them into multiple documents, placing a document break between each image file.

12. Click **OK** to begin the import process.
13. If invalid images are found during the import process, a notification appears with each invalid image and prompts you whether to import the remaining images.
 - Click **Yes** to import the remaining images in the batch.
 - Click **No** to abort the import process from that image forward. The remaining images (located after the invalid image) will not be imported.

Importing Images

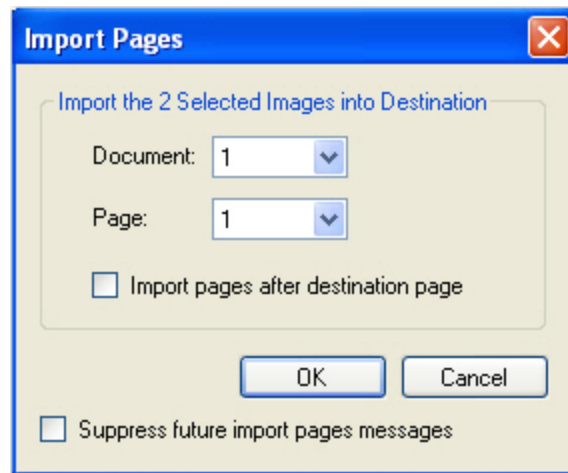
This operation imports images before or after your selected page in the current document. This command does not perform barcode recognition, apply page rotation, or insert auto document breaks.

To import images:

1. Navigate to the destination page in the document.
2. Click **Import Images**.
3. In the **Select Images to Import** dialog box, browse to the directory and select the image(s) to import.

Note: Press the **Ctrl** key to select multiple images or the **Shift** key to select multiple, consecutive images.

4. Click **Open**, and the **Import Pages** dialog box appears.








Import Pages






5. Select the document number where the images will be inserted.
6. Select the page number where the images will be inserted.
7. If you want the images inserted after the destination page, select **Import pages after destination page**. Otherwise, images are inserted before the destination page.
8. Click **OK**.

Document and Page Navigation

The document and page navigation operations are accessible in the Home Page.

Toolbar icons and hot keys are outlined in the table below:

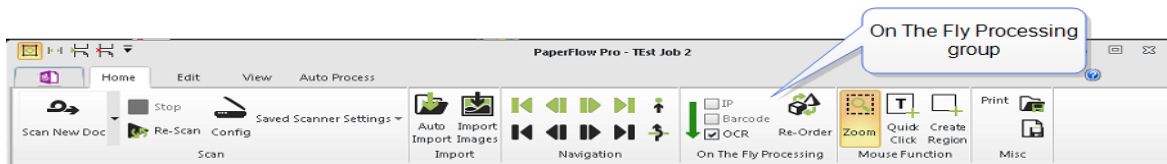
Document Navigation Operations	
First Document 	Displays the first document Hot Key: Ctrl+Home
Previous Document 	Displays the previous document Hot Key: Ctrl+Page Up
Next Document 	Displays the next document Hot Key: Ctrl+Page Down
Last Document 	Displays the last document Hot Key: Ctrl+End
Jump To Document 	Retrieves your specified document number Hot Key: Ctrl+J

Page Navigation Operations	
First Page 	Displays the first page of the current document Hot Key: Home
Previous Page 	Displays the previous page of the current document Hot Key: Page Up
Next Page 	Displays the next page of the current document Hot Key: Page Down
Last Page 	Displays the last page of the current document Hot Key: End
Jump To Page 	Retrieves your specified page number Hot Key: J

On-the-Fly Processing

Image processing, barcode detection, and OCR processing can be executed while you scan documents (on the fly) in the Home page. These processes can be run in any order; however, image processing must be executed as the first or last process. By default, image processing, barcode, then OCR processing is

completed, respectively. For information on specific settings and configuration, see the [On the Fly Processing](#) topic.



On the Fly Processing

Mouse Functions

Mouse functions enable you to switch between the Zoom and Region (barcode, OCR, zoom zone, etc.) operations. By default, the Zoom mouse function is enabled. The Create Region mouse function allows you to apply a zone (you can define the type of zone and select its settings) on the image.

To zoom in on the image

1. If the Zoom mouse function is not already enabled, click **Zoom**.
2. Click the left mouse button and drag the pointer around the region you want to magnify.

Note: To reset the original view of the image, right-click on the image, and then select **Reset Image** from the context menu.

To use Quick Click Indexing

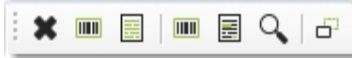
1. Select an index field.
2. Select **Quick Click** to process the full-text data for that document.
3. Choose from the following:
 - To select more than one word at a time, drag the crosshair cursor around the text area from which you want to create the index entry.
 - To select a single word, place the cursor over the word until the quick click cursor displays, and then click the word.
 - To append a single word to an index value, place the pointer over the word until the quick click cursor displays. Press Ctrl, and then click the word.

The characters in the word(s) populate the selected index field.

To apply a region on the image

NOTE: If you want to apply a barcode zone or an OCR zone to a detail field, the zone will always be assigned to the first detail field. If you draw subsequent zones, you can only assign them to the first detail field, and those values will overwrite the value that was previously populated.

1. Select **Create Region**.
2. Drag the crosshair cursor around the area on the image. A toolbar appears above the zone where you can execute one of several operations described below.



Region Toolbar

Deleting Regions - To delete the region you just applied, click **Delete**.

Assigning Barcode Values to Indexes - To assign a barcode value to a new or existing index, click **Assign Barcode Value**.

Assigning OCR Values to Indexes - To assign an OCR value to a new or existing index, click **Assign OCR Value**.

Assigning Barcode Zones to Jobs - To assign a barcode zone to a job, click **Assign Barcode Zone to Job**. See the [Barcode Zone Configuration](#) topic for more information.

Assigning OCR Zones to Jobs - To assign an OCR zone to a job, click **Assign OCR Zone to Job**. See the [OCR Zone Configuration](#) topic for more information.

Assigning Zoom Zones

You can assign a zoom zone to the current page or all pages in the batch. You can then assign the zone to a new or existing index. Alternatively, you can apply the zoom zone to the entire page instead of a region.

To assign a zoom zone

1. Click **Add Zoom Zone to Job**. The **Zone Utilization** flyout window appears.

 A flyout window titled "Zone Utilization" with a black header. It contains four radio button options: "All Pages", "Current Page", "Existing Index:", and "New Index:". The "Existing Index:" option is selected and has a dropdown menu showing "Full Name". The "New Index:" option has an empty text input field. At the bottom right, there is a blue "Apply" button with a right-pointing arrow.

Zone Utilization

2. Select whether to apply the zoom zone to **All Pages** or the **Current Page**.
3. If you want to assign the zone to an index, select one option:
 - Assign to Existing Index (select the index from the drop-down list)

- Assign to New Index (enter the new index name)
4. Click **Apply**.

Misc Functions

In the Misc group you can print and save pages and documents.

To print a document or page

1. Navigate to the document or page you want to print.
2. Click **Print**, and the dialog box appears.
3. Select the printer, print range, and number of copies.
4. Click **OK** to print the document.

To save a document or page

1. Navigate to the document or page you want to save.
2. Do one of the following:
 - Click **Save Document** to save the current document.
 - Click **Save Page** to save the current page.
3. In the **Save As** dialog box, specify the location, file name, and file type for the document or page, and then click **Save**.

Job Settings

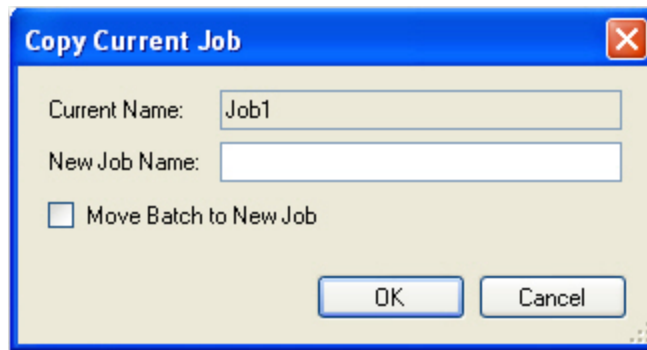
Job settings contain properties for various tasks that are completed automatically in PaperFlow. During job configuration, you can assign automatic document break and page rotation settings. In addition, you can apply settings to limit the number of pages comprising each document, and you can automatically delete blank pages that are scanned in the application. The Copy Job operation enables you to copy the current job settings to create a new job. See the [Job Configuration](#) topic for more information on each setting.

Copying a Job

The Copy Job operation makes a copy of the current job and allows you to move the open batch to the new job.

To copy a job

1. In the Home page, click **Clone Job** in the **Settings** toolbar group. The **Clone Current Job** dialog box appears.



Copy Current Job

2. Enter the new job name.
3. To move the current batch to the new job, select the **Move Batch to New Job** check box.
4. Click **OK**.

Managing Zones

When you select the **Manage Zones** operation from the **Edit** page, you can view, modify, and delete zones that you have assigned to indexes. The Manage Zones window displays all zoom, barcode, and OCR zones per index. You can also view the zone's page number, type (Barcode, OCR, and Zoom Zone), and parameters (X and Y coordinates; width and height).

- Index (indicates the index to which the zone is assigned)
- Type (indicates the type of zone, including barcode, OCR, or zoom zone)
- Page

For specific OCR and barcode zone configuration settings, see the [Barcode Zone Configuration](#) topic or the [OCR Zone Configuration](#) topic.

To edit existing zones

1. In the **Edit** page, click **Manage Zones**. The **Manage Zones** grid opens, where you can view all zones that have been applied to indexes.

Manage Zones			
Zone Assigned To	Type	Page	Bounds (mm)
<ul style="list-style-type: none"> ▲ Name ✘ OCR Date ▲ Auto Doc Break 	OCR	OCR Break Page (Saved)	{X=2.963333,Y=2.370667,Width=47.58267,Height=18.796}
	OCR	<N/A>	{X=0.5926667,Y=0,Width=176.9533,Height=206.248}

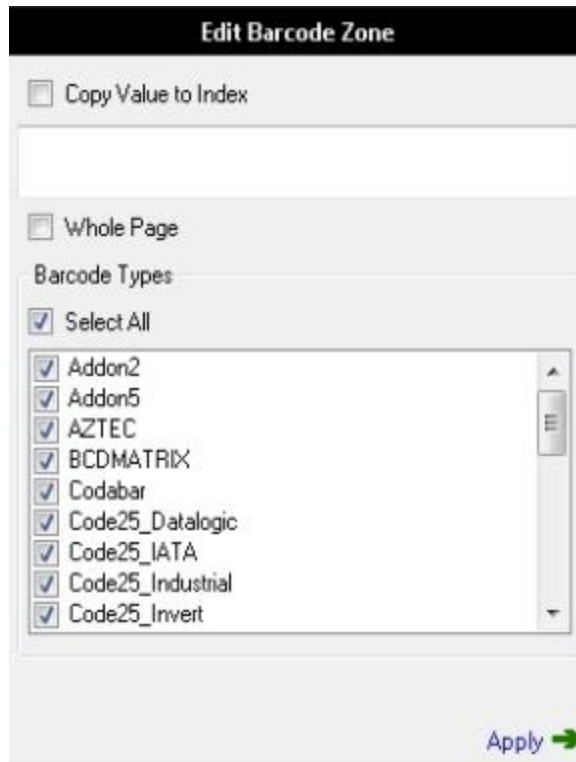
Manage Zones

2. To view a zone's properties, highlight the zone in the grid. The **Manage Zones** toolbar appears above the region on the image, where you can save, delete, or edit the zone's properties.



Manage Zones Toolbar

- To edit the zone's properties, click **Edit Zone**. The corresponding flyout window appears with a preview of the barcode/OCR value.












Edit Barcode Zone Flyout Window


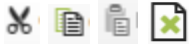


- To copy the zone's value to the selected index, select **Copy value to index**.
- To apply the zone to the entire page, select the **Whole Page** option.
- Edit the properties for the zone, and then click **Apply**.
- If you adjusted the borders of the zone and want to save the new dimensions, click **Save**.
- To delete an existing zone, highlight the zone, and then select **Delete**.

Right-Click Operations

You can execute a variety of operations when you right-click on an image in the main viewing window in the Home, Edit, View, and Automated Processing Tasks pages. The following table displays each operation's default hot keys (if applicable), toolbar icon, and main page where the operation can be executed.

Right-Click Operations	
Reset Images 	Resets the page to its original view Page: Edit Hot Key: Ctrl+T

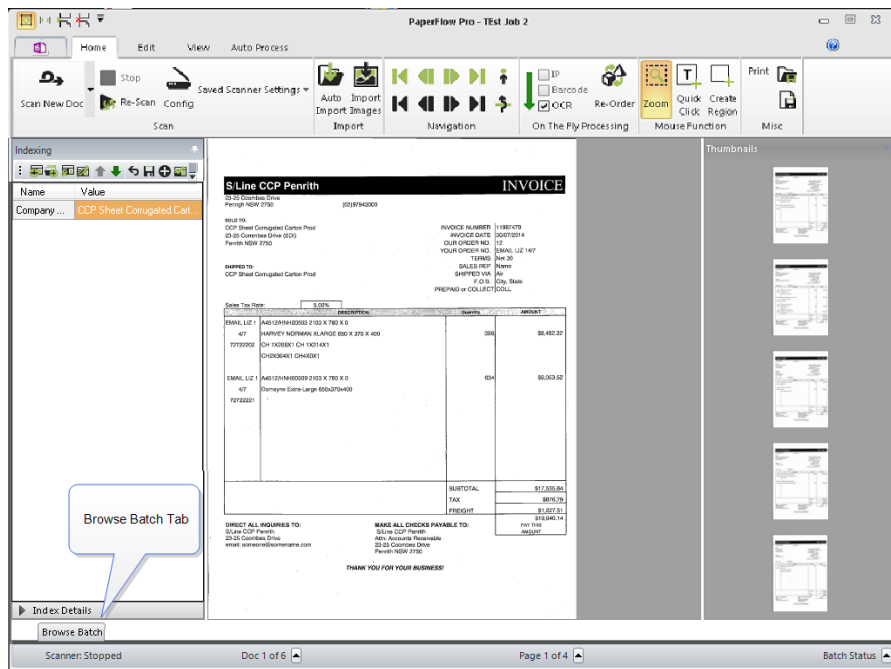
Right-Click Operations	
Rotate Image 	Rotates the image 90 degrees clockwise Page: Edit Hot Key: R
Rotate Save Images 	Rotates and saves one or multiple images in one document or across multiple documents Page: Edit
Scale to Height, Width, Window 	Fits images to: Height - H, Width - W, Height and Width Ctrl+W Page: View
Page Navigation 	Navigates through pages: <ul style="list-style-type: none"> • First Page - Home • Previous Page- Pg Up • Next Page- Pg Down • Last Page- End • Jump to Page- J
Document Navigation 	Navigates through documents <ul style="list-style-type: none"> • First Document - Ctrl+Home • Previous Document - Ctrl+Pg Up • Next Document - Ctrl+Pg Down • Last Document - Ctrl+End • Jump to Document - Ctrl+J
Copy Document 	Copies all pages and appends the new document after the selected document Page: Edit Hot Key: Y
Delete Document 	Deletes the current document and its associated images Page: Edit Hot Key: Ctrl+Delete
Insert Document Break 	Makes your selected page the first page of the new document Page: Edit Hot Key: Ctrl+Insert

Right-Click Operations	
Remove Document Break 	Removes a previously-inserted document break Page: Edit Hot Key: Ctrl+R
Cut, Copy, Paste, Delete Pages 	Cuts, copies, pastes, or deletes the current page Page: Edit Hot Keys: <ul style="list-style-type: none"> • Cut: Ctrl+X • Copy: Ctrl+C • Paste: Ctrl+V • Delete Page: Delete
Invert Page Polarity 	Reverses the black text on white background to white text on black background (or vice versa) Page: Edit
Invert Save Pages Polarity 	Page: Edit

Browse Batch Window Operations

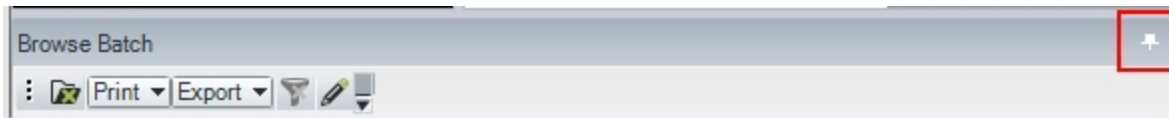
You can use the toolbar or right-click operations in the Browse Batch window to execute operations on the batch. First, you can delete one or more documents and associated images from the batch. You can also print and export one or more documents' metadata to an XML file, such as index values, batch name/order, and number of pages. The Browse Batch Filter can help you locate documents by document position number, number of pages comprising the document, or specific index values. Additionally, you can reorder and hide columns within the grid with the Configure Grid operation.

To open the Browse Batch window, click the **Browse Batch** tab located on the lower left side of the Home page:



Browse Batch Tab

To pin the Browse Batch window in place, click the Auto-Hide pin located in the upper right side of the window:

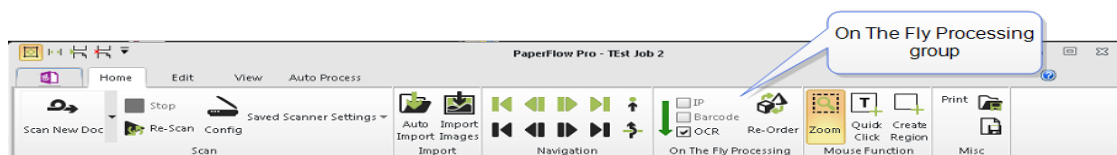


Browse Batch Auto-Hide Pin

On the Fly Processing

You can enable on the fly image processing, barcoding, and zonal OCR processing while you scan documents in the Home page. Multiple processes can be enabled, and the order in which these processes execute can be modified. However, image processing must be designated as the first or last process. While you scan documents, for example, you could enable on the fly image processing to execute binary noise removal; you could then execute barcode detection to automatically break documents; lastly, you could execute zonal OCR processing to read social security numbers to populate an index.

Once you configure barcode zones, OCR zones, and IP zones/filters, you must enable the corresponding task in the on the fly Processing toolbar group. On the fly processing for barcode and OCR zones is configured through the Home page with the Region mouse function. On the fly image processing is configured in the [Auto Process](#) page, where you can apply and configure one or more image processing filters.



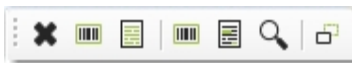
On the Fly Processing

Configuring Barcoding On-the-Fly

To enable barcoding while scanning documents (on the fly processing), you must first define one or more barcode zones. You can add multiple barcode zones on each page, and you can apply unique properties to each zone. As you draw a barcode zone on an image, the barcode value will appear immediately in an adjacent flyout window. After you have configured all barcode zones, you can enable automated barcode processing in the Home page.

To configure barcoding on the fly

1. In the **Home** page, click **Create Region** in the **Mouse Function** toolbar group.
2. Drag the crosshair cursor around the barcode on the image. The **Region** toolbar will appear next to your zone, where you can select how to use the zone.



Region Toolbar

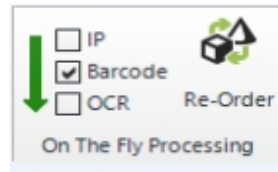
3. Adjust the borders of the barcode zone if necessary.
4. Click **Add Barcode Zone**. The zone's barcode value will populate the **Zone Utilization** flyout window.

 A dialog box titled "Zone Utilization" with a light beige background. It contains the following elements:

- Barcode Value: **Barcode Professional**
- Whole Page Zone
- Assign to Index
 - Existing Index: (dropdown menu)
 - New Index:
- Auto Document Break Zone
 - Required For Deleting Break Page
- Apply** →

Zone Utilization

5. If you want to assign the zone to an index, select one or more options:
 - **Whole Page Zone:** Assign the zone to the entire page.
 - **Assign to Index:** Select the existing index from the drop-down list, or assign to new index (enter the new index name).
 - **Auto Document Break Zone:** In addition to assigning the zone to the entire page or to an index, you can also assign the zone to automatically break documents. Optionally, you can require that the barcode value be read successfully in order to delete the break page.
6. Click the **Apply** link in the **Zone Utilization** dialog box.
7. To enable barcoding on the fly, select the **Barcode** check box in the **On the Fly Processing** toolbar group.



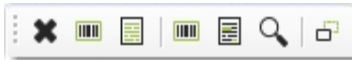
On-the-Fly Processing (Barcode)

Configuring OCR On-the-Fly

To enable zonal OCR while scanning (on-the-fly processing), you must first define one or more OCR zones. You can add an infinite number of OCR zones on each page, and you can apply unique properties to each zone. As you draw a zone around text, you can ensure the text can be read successfully prior to processing batches.

To configure OCR processing on the fly

1. In the **Home** page, click **Create Region** in the **Mouse Function** toolbar group.
2. Drag the crosshair cursor around the text on the image. The **Region** toolbar will appear next to your zone, where you can select how to use the zone.



Region Toolbar

3. Adjust the borders of the OCR zone if necessary.
4. Click **Add OCR Zone to Job**. The zone's OCR value will populate the **Zone Utilization** flyout window.

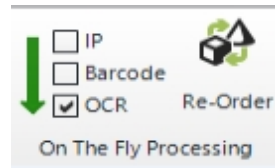
 A flyout window titled "Zone Utilization" with a light beige background. It contains the following elements:

- OCR Value: Sandra Dean (text in green)
- Assign to Index
- Existing Index: Full Name (dropdown menu)
- New Index: (text input field)
- Auto Document Break Zone
- Apply → (button)

Zone Utilization

5. In the **Zone Utilization** flyout window, select how to use the OCR zone:

- **Assign to Index:** Select the existing index from the drop-down list, or assign to new index (enter the new index name).
 - **Auto Document Break Zone:** In addition to assigning the zone to the entire page or to an index, you can also assign the zone to automatically break documents.
6. Click **Apply** in the **Zone Utilization** flyout window.
 7. To enable zonal OCR processing on the fly, select the **OCR** check box in the **On the Fly Processing** toolbar group in the Home page.



On the Fly Processing (OCR)

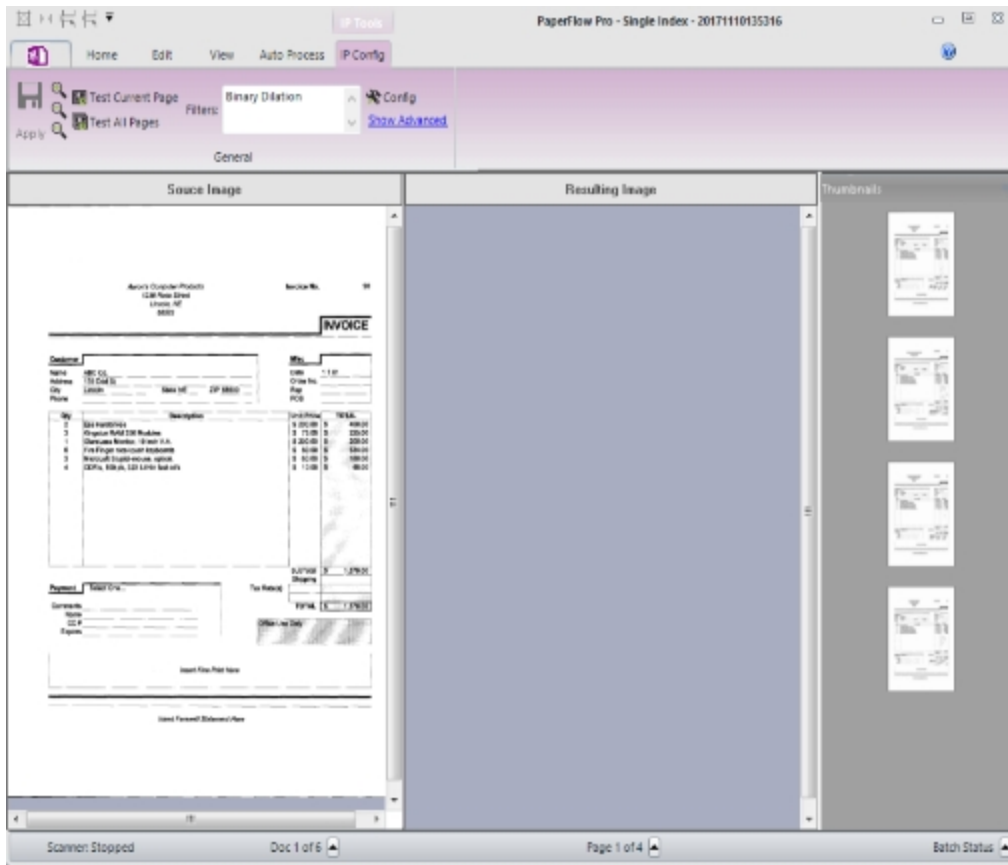
Configuring Image Processing On-the-Fly

To enable image processing while scanning (on the fly processing), you must first configure the appropriate image processing zones and filter(s) in the [Auto Process](#) page. You can apply IP filters on the entire image or specific zones. In both instances, you can test the current page or all pages to ensure the IP filters are acceptable.

IMPORTANT! It is not recommended to apply the page deletion IP filter on the first page during on the fly processing, as all pages will be deleted.

To configure image processing on the fly

1. Open the **Auto Process** page, and then click **Configure** in the **IP** toolbar group. The **IP Zone Configuration** context sensitive page appears.



IP Config

- In the IP Config page, click **Configure**. The **Image Processing Filters** dialog appears. Filters supported in zones are marked with an asterisk (*).

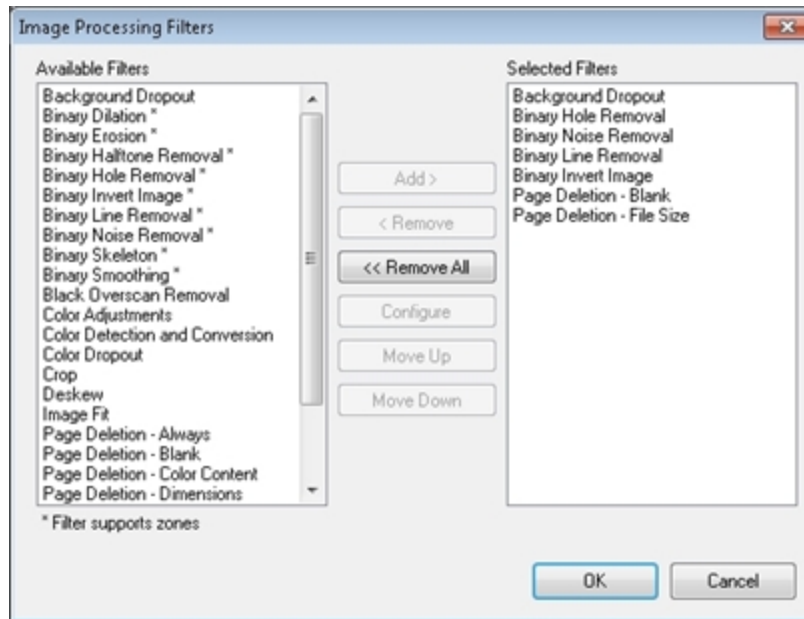


Image Processing Filters

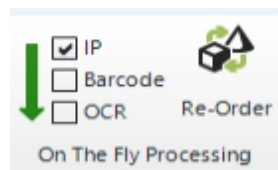
3. From the **Available Filters** list, highlight the filter(s), and then click **Add**.
4. To configure a selected filter, highlight the filter in the **Selected Filters** list, and then click **Configure**.
 - To remove a filter from the **Selected Filters** list, highlight the filter, and then select the **Remove** button.
 - To remove all filters from the **Selected Filters** list, click the **Remove All** button.
 - To move a filter up or down in the **Selected Filter** list, highlight the filter, and then select **Move Up** or **Move Down**.

Note: See the [Image Processing Filters](#) topic for descriptions of each filter.

5. Click **OK** after you have configured all filters.

Note: For complete details on configuring IP Zones, see the [IP Configuration](#) topic.

6. When you are finished configuring all filters in the **IP Config** page, click **Apply**.
7. Open the **Home** page.
8. To enable IP on the fly, select the **IP** check box in the **On the Fly Processing** toolbar group.



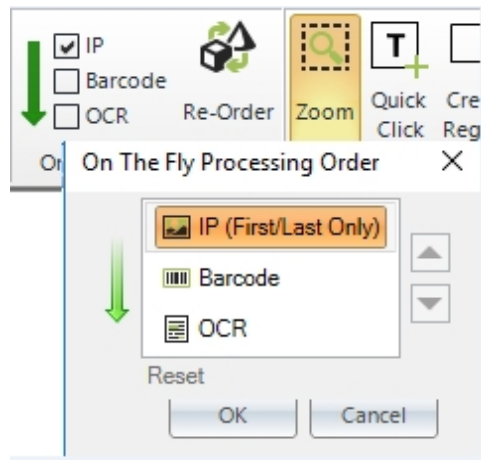
On the Fly Processing (IP)

Re-ordering Processes

In the Home page, you can customize the order in which tasks are executed during on the fly processing. However, image processing must be designated as the first or last process.

To re-order the processes

1. In the Home page, select the **Re-order** button in the **On the Fly Processing** toolbar group. The **Reset** flyout window appears.



Reset

2. Select the process in the list, and then click the up or down arrow.
3. Click **OK**.

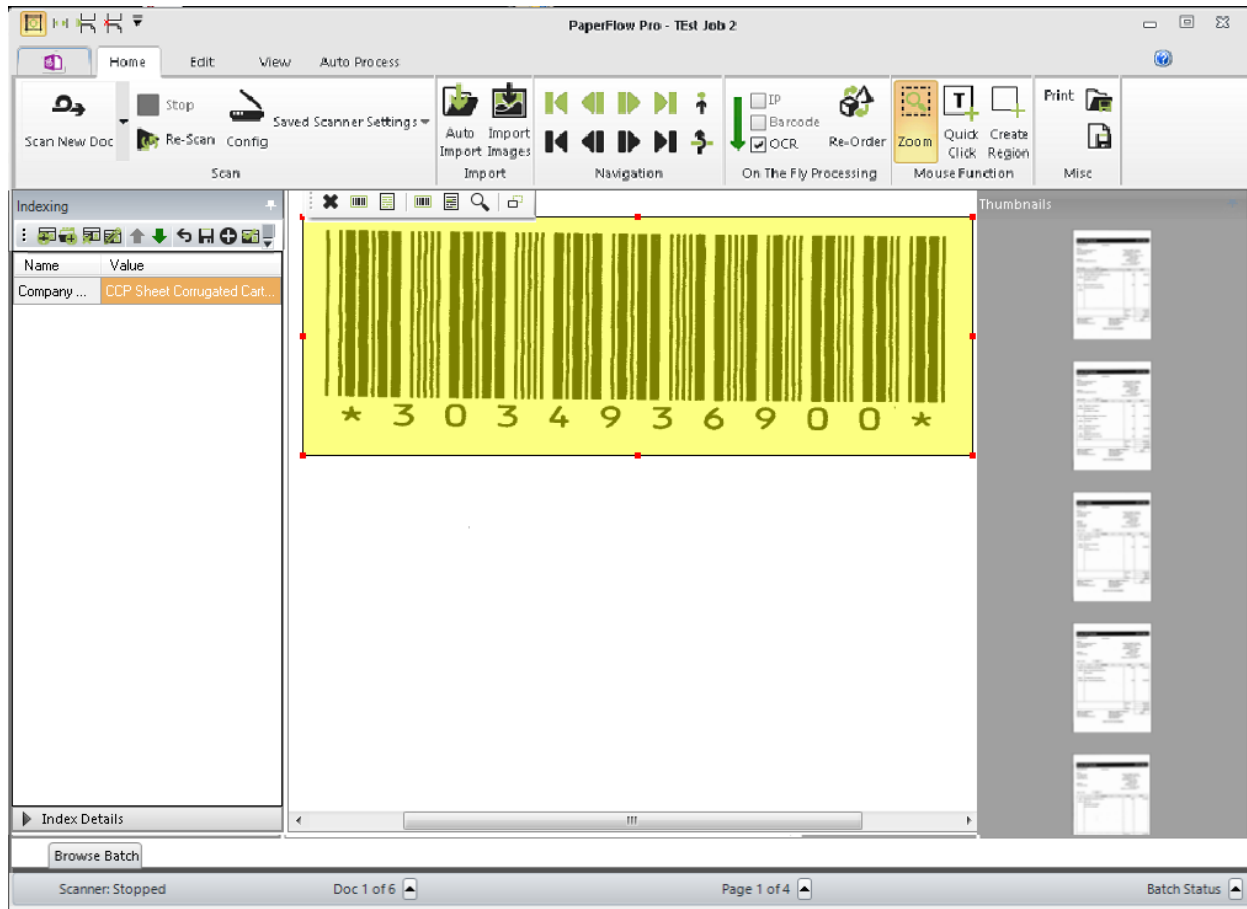
Barcode Zone Configuration

In PaperFlow, you can use barcodes to automatically populate index values and insert document breaks. You can also apply barcode zones manually so you can easily extract and index barcode data that may shift across pages and documents. PaperFlow recognizes one- and two-dimensional, black and white, and color barcodes.

Note: To prevent unpredictable results, new line characters and tab characters will not be removed from 2D barcodes during barcode recognition.

In the [Home](#) page, you can configure barcode zones to automatically insert document breaks or populate index fields while scanning documents (on the fly). Alternatively, you can configure a barcode reading process that executes during post-processing (after scanning and indexing) when you process or export the batch from the [Auto Process](#) page. During barcode zone configuration, all barcode types will be recognized automatically during the reading process (i.e., by default, all barcode types are selected when you view properties for a barcode zone). As you add a barcode zone in the Home page, you can view its value immediately in an adjacent flyout window, and you can define whether the zone automatically breaks documents, populates indexes, or both.

Note: Use of the binary scaling image processing filter can improve the recognition rate of barcode detection. For more information, see the [Image Processing Filters](#) topic.



Add Barcode Zone to Job

Add Barcode Zones to Jobs

You can define barcode zones in the Home page with the Region mouse function which allows you to insert the zone. Barcode zones can be configured to read barcodes while you scan (on the fly processing) or when you process or export the batch (after scanning and indexing) in the Auto Process page. The following instructions describe how to assign barcode zones to jobs.

To add a barcode zone to a job

1. In the **Home** page, click **Create Region** in the **Mouse Function** toolbar group.
2. Drag the crosshair cursor around the barcode on the image. The **Region** toolbar will appear next to your zone, where you can select how to use the zone.

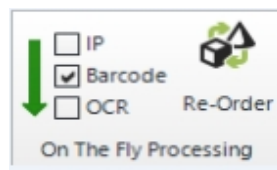


Region Toolbar

3. Adjust the borders of the barcode zone if necessary.
4. Click **Add Barcode Zone to Job**. The zone's barcode value will populate the **Zone Utilization** flyout window.

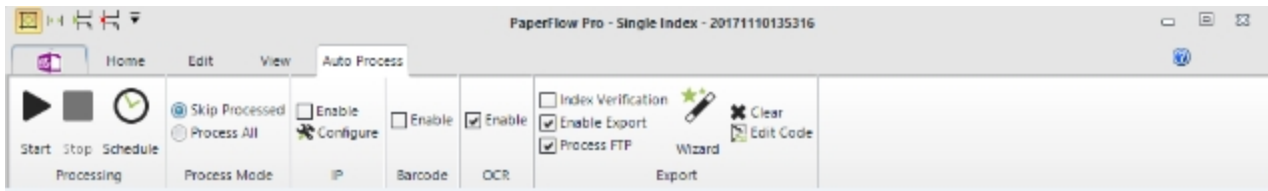
Zone Utilization

5. If you want to assign the zone to an index, select one or more options:
 - **Whole Page Zone:** Assign the zone to the entire page.
 - **Assign to Index:** Select the existing index from the drop-down list, or assign to new index (enter the new index name).
 - **Auto Document Break Zone:** In addition to assigning the zone to the entire page or to an index, you can also assign the zone to automatically break documents. Optionally, you can require that the barcode value be read successfully in order to delete the break page.
6. Click **Apply** in the **Zone Utilization** flyout window to save the settings.
7. To execute the barcode reading process while scanning, select the **Barcode** check box in the **On the Fly Processing** toolbar group. If you want to apply the barcode reading process after scanning and indexing (when you process or export the batch from the Auto Process page), proceed to the next step.



Barcode On the Fly Processing

8. Open the **Auto Process** page, and then select the **Enable** check box in the **Barcode** toolbar group. For more information, see the [Auto Process Page](#) topic.



Automated Processing Tasks - Barcode

9. If you are ready to execute automated processing, click **Start**.

Editing Barcode Zones

You can view all barcode zones that you have applied by clicking **Manage Zones** in the toolbar. You can view each barcode zone's X and Y coordinates, dimensions (in millimeters), orientation, and page location.

To edit a barcode zone

1. In the Edit ribbon, click **Manage Zones**. The **Manage Zones** window appears.

Zone Assigned To	Type	Page	Bounds (mm)
NAME	Barcode	Barcode Break Page (Saved)	{X=20.91267,Y=34.62867,Width=100
Auto Doc Break	Barcode	<N/A>	{X=21.50533,Y=32.85067,Width=97.

Manage Zones

2. Highlight the barcode zone. The **Manage Zone** toolbar appears.



Manage Zone Toolbar

3. Click **Edit Zone**. The **Edit Barcode Zone** flyout window appears. The barcode/OCR value appears in the first field. If you configured the zone as a barcode break page, see the next step.

Edit Barcode Zone

Copy Value to Index

Whole Page

Barcode Types

Select All

- Addon2
- Addon5
- AZTEC
- BCDMATRIX
- Codabar
- Code25_Datalogic
- Code25_IATA
- Code25_Industrial
- Code25_Invert

Apply →

Edit Barcode Zone

4. If you configured the zone as a barcode break page (in [Job Configuration](#)), you can assign a regular expression (Apply Regular Expression). In addition, you can delete the break page if the barcode zone is read successfully (Required For Deleting Break Page).

Edit Barcode Zone

Copy Value to Index

Whole Page

Barcode Types

Select All


Addon2
 Addon5
 AZTEC
 BCDMATRIX
 Codabar
 Code25_Datalogic
 Code25_IATA
 Code25_Industrial
 Code25_Invert

Apply Regular Expression

Please enter regular expression and text to validate:

Regular Expression:

Text to Validate:

Validation Status: 

Required for Deleting Break Page

[Apply](#) →

Edit Barcode Zone (for Auto Document Break Zone)

5. Adjust the barcode zone properties, if applicable.
6. To copy the value to the selected index, select **Copy value to index**.
7. To apply the barcode zone to the entire page, select **Whole Page**.
8. If you adjusted the borders of the zone and want to save the new dimensions, click **Save**.
9. Click **Apply** to save your changes.

Deleting Barcode Zones

You can delete barcode zones that you have applied by clicking **Manage Zones** in the toolbar.

To delete a barcode zone

1. In the Edit page, click **Manage Zones**. The **Manage Zones** window appears.

Zone Assigned To	Type	Page	Bounds (mm)
NAME	Barcode	Barcode Break Page (Saved)	(X=20.91267,Y=34.62867,Width=101
Auto Doc Break	Barcode	<N/A>	(X=21.50533,Y=32.85067,Width=97.

Manage Zones

2. Highlight the barcode zone. The **Edit Zone** toolbar appears.



Edit Zone Toolbar

3. Click **Delete**.
4. Click **Yes** to confirm the deletion.

Note: Alternatively, you can select **Delete** next to the barcode zone row in the grid.

Barcode Zone Properties

Supported Barcode Types

To streamline the barcode reading process, all supported one- and two-dimensional barcode types (listed below) will be detected. If desired, you can exclude certain types from being read during the barcode reading process.

The following two-dimensional (2D) barcode types are supported:

- AZTEC
- DataMatrix
- PDF417
- QR Code
- Royal Post
- Australian Post
- Intelligent Mail

Note: To prevent unpredictable results, new line characters and tab characters will not be removed from 2D barcodes during barcode recognition.

The following one-dimensional (1D) barcode types are supported:

- Addon 2
- Addon 5
- BCD Matrix
- Codabar
- Code25 Datalogic
- Code25 IATA
- Code25 Industrial
- Code25 Interleaved
- Code25 Invert
- Code25 Matrix
- Code 32
- Code 39
- Code 93
- EAN 13
- EAN 8
- Postnet
- Type 128
- UCC 128
- UPC-A
- UPC-E

To exclude certain barcode types from being detected

1. In the Edit page, click **Manage Zones**. The **Manage Zones** window appears.

Zone Assigned To	Type	Page	Bounds (mm)
NAME	Barcode	Barcode Break Page (Saved)	{X=20.91267,Y=34.62867,Width=100
Auto Doc Break	Barcode	<N/A>	{X=21.50533,Y=32.85067,Width=97.

Manage Zones

2. Highlight the barcode zone. The **Edit Zone** toolbar appears.



Edit Zone Toolbar

3. Click **Edit Zone**. The **Edit Barcode Zone** flyout window appears.

Edit Barcode Zone

Copy Value to Index

Whole Page

Barcode Types

Select All

Addon2
 Addon5
 AZTEC
 BCDMATRIX
 Codabar
 Code25_Datalogic
 Code25_IATA
 Code25_Industrial
 Code25_Invert

Apply →

Edit Barcode Zone

4. To exclude certain types from being detected, remove the check marks from the applicable check boxes in the **Barcode Types** section.
5. Click **Apply** to save your changes.

Regular Expression Verification for Auto Document Breaks

This field is applicable when you define Auto Document Breaks with barcodes. If you enter an exact value or regular expression into the **Regular Expression Verification** field, a document break is only inserted when the system reads barcodes matching your exact value or regular expression. If you leave this field blank, any barcode read by the system will cause a document break to be inserted. A regular expression is a pattern of text that consists of ordinary characters (for example, letters A through Z) and special characters, known as metacharacters. The pattern describes one or more strings to match when searching a body of text. The regular expression serves as a template for matching a character pattern to the string being searched.

To configure a regular expression

1. In the Edit Barcode Zone flyout window, click **Apply Regular Expression** to enter a regular expression.

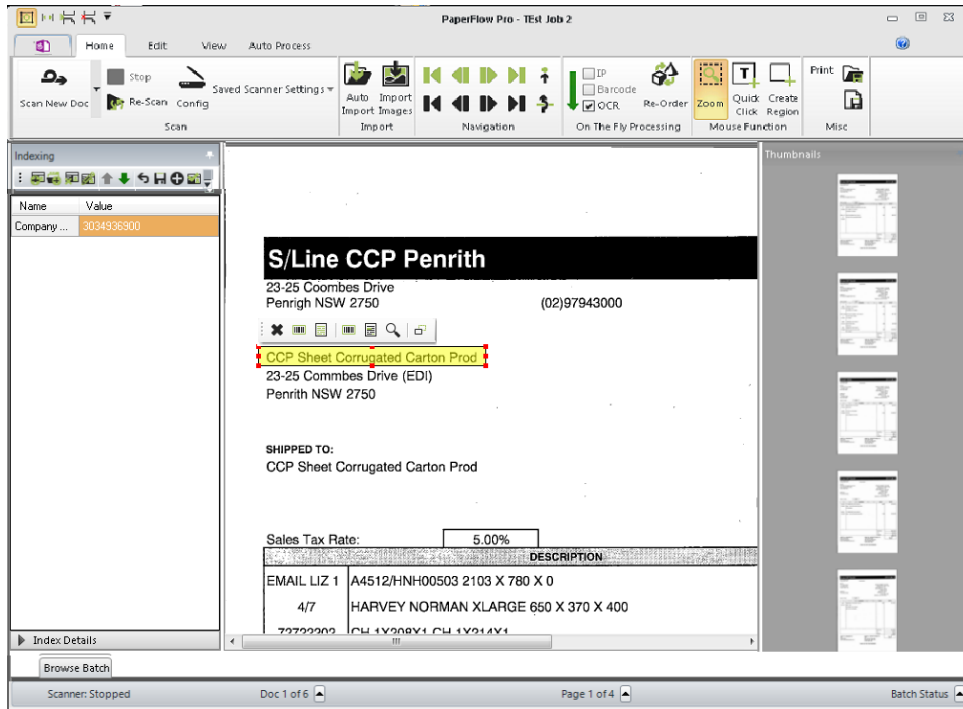
Regular Expression

2. In the **Regular Expression** field, enter the regular expression.
3. Enter the text to validate.
 - A successful validation displays with a green check mark.
 - Invalid entries display with a red X.

OCR Zone Configuration

Zonal OCR processing is performed by the Open Text® engine. PaperFlow recognizes text contained in OCR zones that you define in the Home page. You can define the OCR zones that will be recognized while you scan (on the fly processing) or when you export the batch in the Auto Process page. The Region mouse function equips your cursor to draw an OCR zone on the image.

Note: New line characters will be removed during OCR processing.



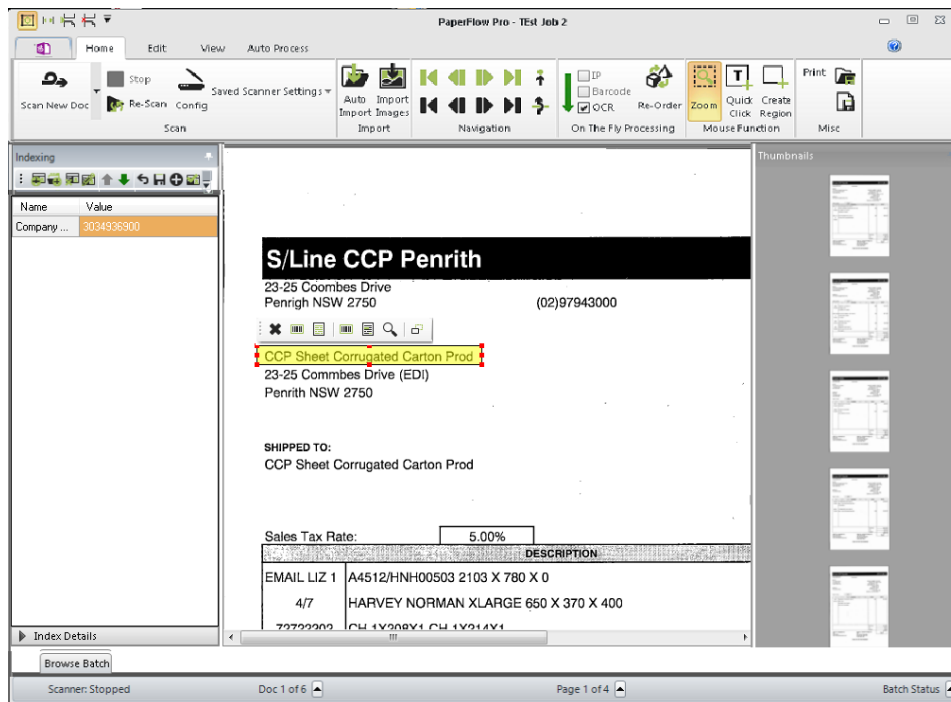
Adding an OCR Zone

Add OCR Zones to Jobs

You can define OCR zones in the Home page to extract text while you scan (on the fly processing) or when you execute automated processing (after scanning and indexing) in the **Auto Process** page. The following instructions describe how to assign OCR zones to jobs.

To add an OCR zone to a job

1. In the **Home** page, click **Create Region** in the **Mouse Function** toolbar group.
2. Drag the crosshair cursor around the text on the image. The **Region** toolbar will appear next to your zone, where you can select how to use the zone.



OCR Zone Configuration - Add OCR Zone to Job

- Adjust the borders of the OCR zone if necessary.
- Click **Add OCR Zone to Job**. The zone's OCR value will populate the **Zone Utilization** flyout window.

The Zone Utilization flyout window displays the following configuration:

Zone Utilization

OCR Value:
CCP Sheet Corrugated Carton Prod

Whole Page Zone

Assign to Index

Existing Index: Company Name

New Index: [Text Field]

Auto Document Break Zone

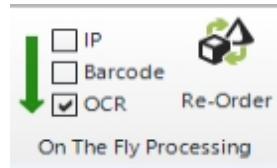
Required For Deleting Break Page

Apply →

OCR Zone Utilization

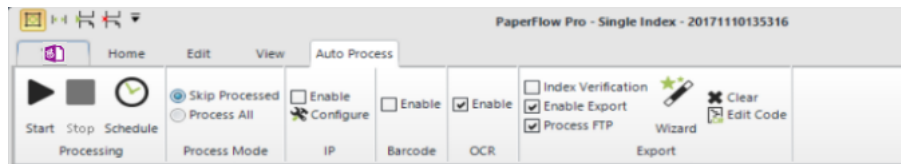
- In the **Zone Utilization** flyout window, select how to use the OCR zone:
 - Assign to Index:** Select the existing index from the drop-down list, or assign to new index (enter the new index name).

- **Auto Document Break Zone:** In addition to assigning the zone to the entire page or to an index, you can also assign the zone to automatically break documents. Optionally, you can require that the OCR zone be read successfully in order to delete the break page.
6. Click **Apply** in the **Zone Utilization** flyout window.
 7. If you want to extract text from this OCR zone while you scan documents (on the fly), select the **OCR** check box in the **On the Fly Processing** toolbar group in the Home page. You are now ready to scan documents.



OCR Applied On the Fly

8. Alternatively, if you only want OCR text to be extracted during automated processing (post-scanning and indexing), proceed to the **Auto Process** page.
9. In the **Auto Process** page, select the **Enable** check box next to **OCR**. You are now ready to execute zonal OCR during automated processing. For more information on executing Zonal OCR automated processing, see the [Auto Process](#) topic.



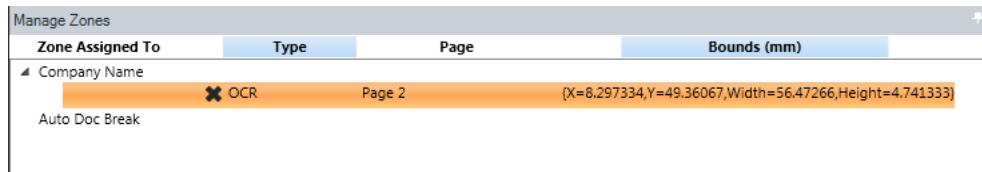
Zonal OCR - Enabled During Automated Processing

Editing OCR Zones

OCR Zones can be edited with the **Manage Zones** operation in the Home page.

To edit an OCR zone

1. In the Edit page, click **Manage Zones**. The **Manage Zones** window appears.



Manage Zones Window

2. Highlight the OCR zone. The **Edit Zone** toolbar appears.



Edit Zone Toolbar

- Click **Edit Zone**. The **Edit OCR Zone** flyout window appears. The OCR value appears in the first field.

Edit OCR Zone

Copy Value to Index

Sandra Dean

Whole Page

Custom Code

OCR Statistics	
----------------	--

Engine

Auto Rotate	True
Brightness Sample Size	15
Brightness Threshold	75
Country/Language	USA
Minimum Confidence	0

Custom Code

Apply →

Edit OCR Zone

- To copy the value to the selected index, select **Copy value to index**.
- To apply the OCR zone to the entire page, select **Whole Page**.
- Modify the properties, if applicable. See the next section on **Zonal OCR Properties** for more information on each property.
- Click **Apply** to save your changes.

Deleting OCR Zones

OCR Zones can be deleted with the **Manage Zones** operation in the Home page.

To delete an OCR zone

- In the Edit page, click **Manage Zones**. The **Manage Zones** window appears.

Zone Assigned To	Type	Page	Bounds (mm)
Full Name	Barcode	Page 1	Whole Page
	Barcode	Page 4	(X=3.81,Y=1.693333,Width=9.482666,Height=...
	OCR	Page 1	(X=50.292,Y=78.57066,Width=28.956,Height=8
	OCR	Page 5	(X=19.05,Y=65.786,Width=45.63533,Height=8

Manage Zones Window

2. Highlight the appropriate OCR zone in the grid. A toolbar appears above your selection.
3. Click **Delete**.
4. Click **Yes** to confirm the deletion.

Note: Alternatively, you can select **Delete** next to the OCR zone row in the grid.

Engine and Zonal OCR Properties

Auto Rotate

By default, this property is set to **True**, and the Open Text Zonal OCR engine will attempt to recognize text in all orientations (vertically and horizontally) within the zone. If you do not want the Open Text Zonal OCR engine to recognize text in all orientations (vertically only) within the zone, set this property to **False**.

Brightness Sample Sizes

This value (indicating both width and height) specifies the rectangle size used to calculate the brightness threshold. You can specify a value between 1 and 32, and the default value is 15.

Note: Smaller brightness sample sizes may cause the OCR engine to recognize extraneous noise on the image.

Brightness Threshold

You can assign a brightness threshold value (between 0 and 255) for the image. The default value is 75.

Country/Language/Country Group/Character Set

When you select from the **Country/Language** property, your selection may reflect not only a country or language, but country groups (e.g., Western Europe), language groups (e.g., Latin), and character sets (e.g., OCR). Each country corresponds to one or more languages, and countries are automatically expanded into language sets (e.g., German corresponds to the German language; Switzerland corresponds to the German, French, Italian, and Rhaeto-Romantic languages).

Specific languages are also available for selection under the Country/Language property (e.g., English, German, Dutch, Italian, etc.). It is recommended to narrow your selection as much as possible since OCR

recognition may become slower with a greater number of selected countries or languages. It is also recommended to select a country rather than a language or country group (e.g., Western Europe, South America, Scandinavia) since the recognition of certain types of addresses and money transfer forms may improve.

Language Groups

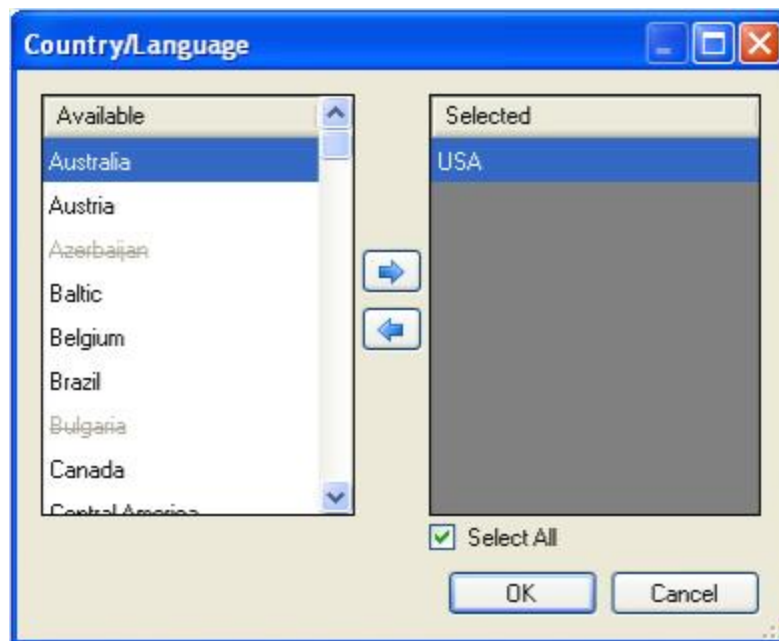
If you select a language group, it is recommended to select only one, since they encompass multiple languages, countries, and code pages:

1. Cyrillic (Codepage 1251)
2. Greek (Codepage 1253)
3. Latin (Codepage 1250, 1252, 1254, and 1257; i.e., Central Europe, Western Europe, Turkey, and Baltic)
4. Azerbaijani

Note: For language groups, recognition results are always represented by Unicode characters. The English character set (A-Z, a-z) is implicitly available with all country-language selections, even Greek or Cyrillic.

To select a country or language for full-text OCR output

1. After selecting an output type, click the ellipsis button to the right of the **Country/Language** property. The **Country/Language** dialog box appears.



Country/Language

2. Highlight one or more countries/languages from the **Available** list, and then click the right arrow.
3. To remove one or more selections from the **Selected** list, highlight the countries/languages, and then click the left arrow.
4. When finished with your selections, click **OK**.

Country/Language/Country Group/Character Set

If you narrow the search for specific languages or countries, the OCR engine will process more rapidly during OCR recognition. The following table displays the supported countries, languages, country groups, language groups, and character sets available in PaperFlow.

Supported Countries and Languages		
Australia	Scandinavia	Hungarian
Austria	Slovakia	Icelandic
Azerbaijan	Slovenia	Indonesian
Baltic	South Africa	Irish
Belgium	South America	Italian
Brazil	South America Spanish	Kirundi
Bulgaria	Spain	Latin
Canada	Sweden	Latvian
Central America	Switzerland	Lithuanian
Central Europe	Turkey	Luxembourgish
Croatia	Western Europe	Malay
Cyrillic	OCR	Norwegian
Czech	Afrikaans	Polish
Denmark	Albanian	Portuguese
Estonia	Azerbaijani Latin	Quechua
Finland	Basque	Rhaeto Romanic
France	Bosnian Latin	Romanian

Supported Countries and Languages		
Germany	Bulgarian	Russian
Great Britain	Catalan	Rwanda
Greece	Croatian	Serbian Latin
Hungary	Czech Language	Shona
Ireland	Danish	Slovak
Italy	Dutch	Slovenian
Liechtenstein	English	Somali
Lithuania	Estonian	Sorbian
Luxembourg	Faroese	Spanish
Netherlands	Finnish	Swahili
New Zealand	French	Swedish
Norway	Frisian	Turkish
Poland	German	Wolof
Portugal	Greek	Xhosa
Romania	Guarani	Zulu
Russia	Hani	USA

Minimum Confidence

The confidence level reflects the reliability of the OCR recognition results. Values range from zero (the default setting), the lowest confidence level, to 255, the highest confidence level indicating the most reliable recognition results. Characters with lower confidence levels than your specified value will display as the rejection symbol, which is the tilde (~) character by default.

Timeout Value (sec)

This property allows you to define the maximum amount of time that the OCR engine processes a single image before it fails. By default, this property is set to 180 seconds (3 minutes). You can assign a timeout between one second and 3,600 seconds (1 hour).

Note: Raising the timeout setting may increase the amount of time to process all images.

Reader Engine

Two internal OCR reader engines, RecoStar and AEGReader, are available for selection during zonal OCR configuration. Document content may cause one engine to generate more accurate recognition results, so the Voter option is selected by default. The Voter option automatically "votes" between both engines' recognition results, and generates results from the engine with the highest confidence level.

Rejection Symbol

This property represents rejected characters in output documents. A rejected character is not recognized by the active OCR recognition engine configuration. The default value is the Tilde character (~). Only a single character can be entered in this field.



To prevent unrecognized characters from appearing in output documents, leave this field blank.

Syntax Mode

When you assign the syntax mode to alphanumeric, the default character set is alphanumeric. If a character is ambiguous, the OCR engine will attempt to process the character as a letter before a number. For example, the OCR engine will process a "G" before "6", "S" before "5", etc.







When you assign the syntax mode to numerical, the default character set is numeric. If a character is ambiguous, the OCR engine will attempt to process the character as a number before a letter. For example, the OCR engine will process a "6" before "G", "5" before "S", etc.

Scanning Operations

In the **Home** page, scanning operations enable you to scan new documents; scan pages to the end of the current document; scan single pages; configure scanner settings; and various other scanning tasks. Before you initially scan documents, you must first configure a scanner by selecting **Configure Scanner** in the toolbar. The Scan New Doc operation is the default operation in the Scanning toolbar group. However, if you select the Scan Pages or Scan One Page operation, that operation will appear as the default operation in the Scanning toolbar group.

The table below summarizes each operation and associated hot key.

Scanning Operations	
Scan Pages ►	Scans from your specified page to the end of the current document Hot Key: S

Scanning Operations	
Scan New Doc 	Creates a new document at the end of the batch and begins scanning pages in the new document Hot Key: M
Scan One Page 	Scans your specified page at the end of the current document (If your scanner is configured for duplex scanning, only the front image is scanned) Hot Key: O
Insert Pages Before/After 	Inserts pages before or after a specified page and applies page rotation (if defined); does not apply barcode recognition or auto document breaks Hot Keys: Ctrl+B (Before); Ctrl+A (After)
Re-Scan 	Re-scans your specified range of pages Hot Key: A
Stop Scanner 	Stops the scanning process Hot Key: Escape
Configure Scanner Setting 	Allows you to configure your scanner's settings Hot Key: E See Scanner Settings for more information.

Configuring the Scanner

The Configure Scanner operation allows you to assign scanner settings. To add a scanner profile, click **Configure Scanner**. See the [Scanner Settings](#) topic for details on each setting.

Scan New Doc

This operation creates a new document and begins scanning pages in the new document. To scan a new document, select **Scan New Doc**. The new document will be created at the end of the batch, and pages in the new document will be scanned.

Scan Pages

To scan pages from your specified page to the end of the current document, click **Start Pages**.

Scanning One Page

This operation scans your specified page at the end of the current document (if your scanner is configured for duplex scanning, only the front image is scanned). To scan one page, navigate to the page, and then select **Scan One Page**.

Stopping the Scanning Process

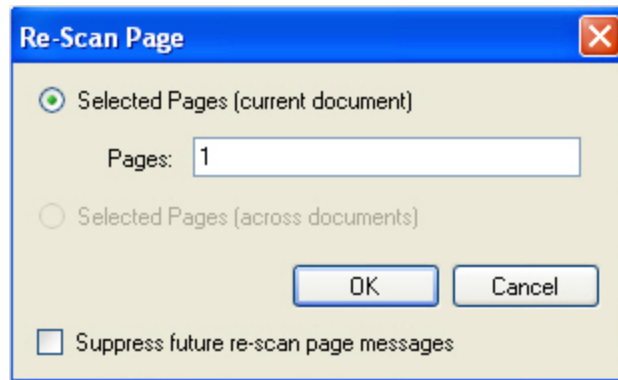
To stop the scanning process, click **Stop Scanning**.

Re-Scanning a Page

If a page did not scan properly, you can use the Re-Scan Page operation in the toolbar.

To re-scan a page:

1. Navigate to the page that needs to be re-scanned.
2. Click **Re-Scan**. The **Re-Scan Page** dialog appears.



Re-Scan Page

3. Enter the page numbers in the current document or across documents to be scanned again. You can place commas between page numbers and insert dashes for page ranges (e.g., 1, 2, 3-5).
4. Click **OK**.

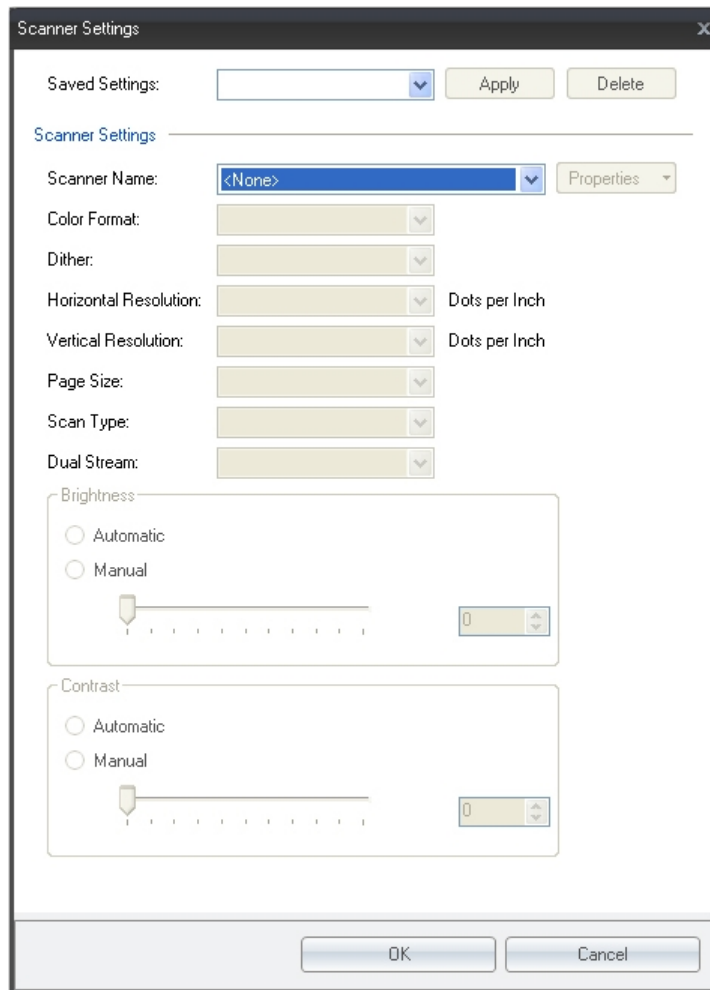
Note: Any image processing previously applied to the image will be removed when you rescan a page.

Saved Scanner Settings

This drop-down menu displays scanner settings that were previously saved. To save a new scanner setting, enter the name directly in the **Saved Settings** field; then click **Apply**. To remove a setting, select it from the **Saved Settings** drop-down menu; then click **Delete**.

Scanner Settings

In PaperFlow, black and white images are saved in an industry standard Group IV TIFF file format, while color or grayscale images are saved in a standard JPG or BMP file format. To view scanner settings, open the **Home** page, and then select **Config** in the **Scanning** toolbar group.



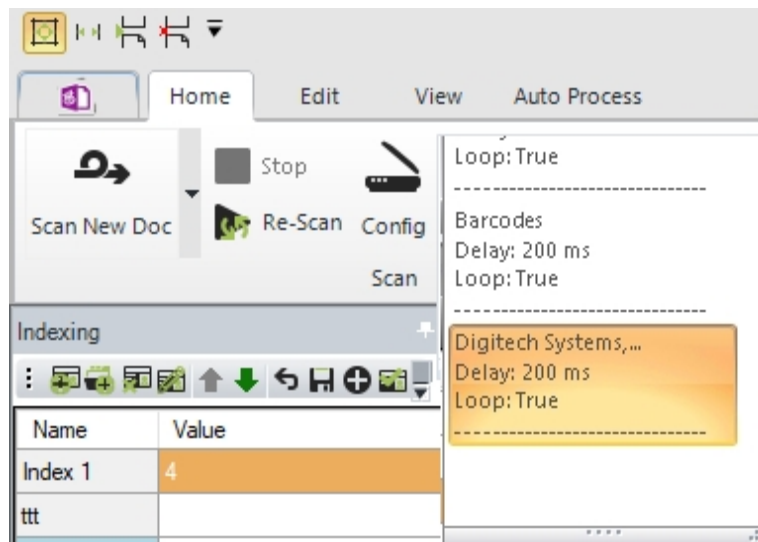
Scanner Settings

Note: Depending on the type of scanner that is used, some scanner options may be disabled, and the number of options available in the drop-down menus may vary.

Saved Settings

This drop-down menu displays scanner settings that were previously saved. To save a new scanner setting, enter the name directly in the **Saved Settings** field; then click **Apply**. To remove a setting, select it from the **Saved Settings** drop-down menu; then click **Delete**. To use a scanner profile, select the scanner profile from the drop-down list.

In the Home page, you can view all scanner profiles that you created by selecting the down arrow next to the current scanner profile in the **Scanning** toolbar group (you can also view a list of saved scanner profiles by pressing Shift+F6):



Scanner Profiles

Scanner Name

Click the **Scanner Name** drop-down menu to select a scanner that has been installed and detected by PaperFlow. The **Properties** menu allows you to configure scanner and file import devices. Depending on the type of scanner, the menu options will display different settings.

The Properties drop-down menu contains the following options:

- **More Settings** may contain additional scanner settings that are available for configuration.
- **About** displays the driver's version, copyright, and other information specific to the scanner.
- **Area Settings** allow you to assign the scanning area.
- **Extended Settings** may contain additional scanner settings that are available for configuration.
- **Calibrate** allows you to calibrate the scanner driver.
- **Configure** allows you to configure the scanner driver settings.

Color Format

Also known as the mode, you can select from options such as black and white, color, etc.

Dither

Dithering converts and simulates unavailable colors. When dithering is turned on, the system combines two or more colors to approximate the unavailable color.

Horizontal Resolution

Select the horizontal dots-per-inch resolution setting to apply during the scanning process.

Vertical Resolution

Select the vertical dots-per-inch resolution setting to apply during the scanning process.

Page Size

This setting determines the default page size of the image as it is scanned.

Scan Type

This setting determines if scanning should be two-sided (duplex), one-sided (simplex), etc.

Dual Stream

Applicable to dual stream scanners, you can select how pages will be scanned (Front/Back, Front Only, Back Only). To disable dual stream scanning, select **None**.

Brightness

Brightness defines a pixel's lightness value from black (darkest) to white (brightest). Select the brightness level to apply during the scanning process and whether it should be applied manually or automatically. If applying the contrast manually, use the slider to increase or decrease the amount of contrast.

Contrast

Contrast is a measure of the rate of change of brightness in an image. A high-contrast image contains defined transitions from black to white. Select the contrast level to apply during the scanning process and whether it should be applied manually or automatically. If applying the contrast manually, use the slider to increase or decrease the amount of contrast.

Indexing

In the Home page, the Indexing window, located on the left side of the Home page by default, provides both index configuration and hand-key indexing functionality. You can also configure indexes and hand-key index values while you are in the Edit, View, and Auto Process pages. In each of these pages, you can add, edit, and delete index names; enter and verify index values; and add and configure detail sets within the Indexing window. You can also reset (clear), save, and reorder index fields that you have added. Index fields can also be created or changed at time (i.e. on the fly).

Name	Value
Full Name	
Address	
City	
State	
Zip	
Invoice Number	
Invoice Date	
Company	

Index Details

Indexing Window

Adding Indexes

You can add and configure indexes in the Indexing Properties window.

To add an index

1. Click **Add Index**. The **Index Properties (New Index)** window appears.

The screenshot shows the 'Indexing Properties (New Index)' dialog box. The 'General' section is expanded, showing the following fields:

- Name:** [New Index]
- Type:** Text
- Format:** <N/A>

Below the 'General' section are five collapsed sections:

- Validation
- Predefined Values
- Barcode
- OCR
- Miscellaneous

At the bottom of the dialog box, there are four buttons: 'Expand All', 'Collapse All', 'OK', and 'Cancel'. A link labeled 'Show Advanced Configuration' is also present.

Indexing Properties (New Index)

2. Enter the name of the new index, and select the index type from the Type drop-down menu. Depending on the index type you select, you may be able to select the index format. See the [Index Types and Formats](#) topic for more information.
3. Configure any remaining Validation, Predefined Values, Barcode, OCR, and/or Miscellaneous properties. See the [Basic and Advanced Index Properties](#) topic for more information.



Click the **Expand All** button to view all first-level properties found in each section. Click the **Collapse All** button to hide all properties in each section.

4. When finished configuring the index, click **OK**.

Adding Detail Fields

You can add individual detail fields that can (optionally) comprise a detail set. In PaperFlow, detail sets define a collection of indexes that allow multiple sets of field data to reference a single document. See the [Detail Sets](#) topic for more information.

To add a detail field

1. Click **Add Detail Field**. The **Index Properties(New Detail Field)** window appears.

The screenshot shows a dialog box titled "Index Properties (New Detail Field)". The "General" section is expanded, showing the following fields:

- Name:
- Type: (dropdown menu)
- Format:

Below the "General" section are five collapsed sections:

- Validation
- Predefined Values
- Barcode
- OCR
- Miscellaneous

At the bottom of the dialog box are four buttons: "Expand All", "Collapse All", "OK", and "Cancel". Below the "OK" and "Cancel" buttons is a link: [Show Advanced Configuration](#).

Index Properties (New Detail Field)

2. Enter the name of the new detail field, and select the index type. Depending on the index type you select, you may be able to select the index format. See the [Index Types and Formats](#) topic for more information.
3. Configure any remaining Validation, Predefined Values, Barcode, OCR, and/or Miscellaneous properties. See the [Basic and Advanced Index Properties](#) topic for more information.



Click the **Expand All** button to view all first-level properties found in each section. Click the **Collapse All** button to hide all properties in each section.

4. When finished configuring the index, click **OK**.

Deleting Indexes and Detail Fields

You can delete indexes and detail fields from the Indexing window.

To delete an index or a detail field

1. Highlight the index or detail field in the Indexing window.
2. Click **Delete Index (Detail Field)**.
3. Click **OK** to confirm the deletion.

Editing Indexes and Detail Fields

You can change the properties of an existing index or detail field. Individual index fields and detail fields are differentiated by color in the Indexing window. See the [Basic and Advanced Index Properties](#) topic for more information. Or, see the [Detail Sets](#) topic for more information.

To change the properties of an index

1. Highlight the index name in the Indexing window, and then click **Configure Index**.
2. Edit the appropriate properties.
3. Click **OK** to save your changes.

To change the properties of a detail field

1. Highlight the detail field name in the Indexing window, and then click **Configure Detail Field**.
2. Edit the appropriate properties.
3. Click **OK** to save your changes.

Moving Indexes Up/Down

You can change the order in which indexes and detail fields appear in the Indexing window.

To move an index or detail field up or down the list

1. Highlight the index or detail field.
2. Click the **Up** or **Down** arrow to move it to another position.

Resetting Index Values

After you have entered one or more index values, you can reset (clear) all index values that you have entered in the Indexing window.

To reset index values

1. If applicable, navigate to the appropriate document.
2. Click **Reset Values**. All previously-entered index values will be cleared.

Adding Detail Sets

You can add detail sets in the Indexing window. In PaperFlow, detail sets define a collection of indexes that allow multiple sets of field data to reference a single document. See the [Detail Sets](#) topic for more information.

To add a detail set

1. Click **Add Detail Set**.
2. Enter the number of detail sets to add.
3. Click **OK**.

Saving Index Values

After you enter your index values in the **Value** column in the Indexing window, you can save them prior to exporting your batch. Unsaved index values display with an asterisk (*) next to the index field name. If you have not entered a required field (or entered an invalid index value) in the Indexing window upon saving the index value, a red exclamation will appear in the field.



To receive a message that notifies you when all documents have been indexed, enable the general display preference option, **Save and Jump to Next Document with Blank Index Values**.

To save index values

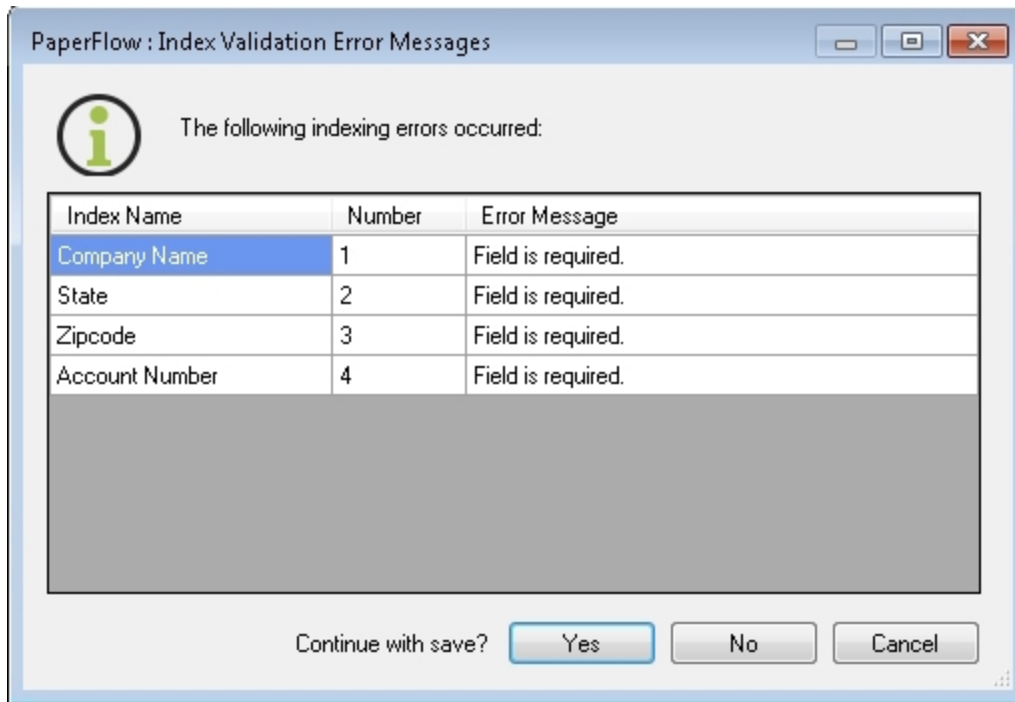
1. After you have finished entering the required index values in the **Values** column, click **Save Indexes**.
-



You can also press **Enter** to save index values in the Indexing window.

2. If you defined any index validation properties (see the [Basic Indexing Properties](#) topic for more information), any indexing errors will appear in a popup message before you save them. Click **OK** to return to the Indexing window to correct the errors before proceeding.
-

Note: If your Browse Batch window is viewable, its index values will be updated once you execute the Save Indexes command.



Index Validation Error Messages

Verifying Index Values

The Verify Index Values operation searches for blank values or other search string values that have been defined in the current batch. Depending on your general index verification settings in Indexing Preferences (**Verify Starts from Current Document Forward** or **Verify Starts at the Beginning of the Batch**), the index verification process starts with the appropriate document in the batch and will highlight the next document that contains a blank value or your defined search string value. To verify that blank index values or other defined search string values are not present, click **Verify Index Values**. If no blank values or defined search string values exist, you will see a message that indicates all indexes have been verified.

NOTE: Using the **Verify Index Values** control only verifies that index fields are not blank, or do not contain a defined search string value. **Verify Index Values** does not evaluate the contents of any index field.

Index Details

Although index details are hidden by default, you can click the Index Details arrow located at the bottom of the Indexing window. Index details reveal whether the selected index is assigned to a barcode, OCR, or zoom zone. The index type (date, currency, etc.) is shown and If auto-carry settings have been applied, they will appear in the index details.

Name	Value
Full Name	
Address	
City	
State	
Zip	
Invoice Number	
Invoice Date	
Company	

▶ Index Details

Index Details (Hidden)

▼ Index Details	
Type:	Text
OCR Zone:	Multiple Zones
Barcode Zone:	Page 7, Zone: {X=61.341,Y=92.837,Width=90.297,Height=37.846}
Auto Carry:	None
Zoom Zone:	{X=17.018,Y=14.986,Width=98.679,Height=16.891}, Pg : 7

Index Details

Manual Barcode Indexing

If you are tasked with indexing barcodes, the Manual Barcode Index operation is available in the Standard toolbar and Edit menu. This operation allows you to manually apply zones around barcodes in order to extract data that populates index fields. This operation enables you to extract data from barcodes that may shift positions across pages and documents.

To manually barcode and index

1. Place the cursor's focus on the appropriate index field in the **Index Manager**.
2. Press **Shift + left mouse button** to equip the cursor with a zone.
3. While pressing the **Shift key + left mouse button**, drag the cursor around the region on the image. Barcode zones appear highlighted in the main window.
4. Click **Manual Barcode Index**. The index value read from the barcode zone appears in the Index Manager window.



If the barcode was not read completely or the results seem inaccurate, adjust the zone's borders or scan a clearer image into the PaperFlow.

Detail Sets

You can insert detail set values in the Indexing window. In PaperFlow, detail sets define a collection of indexes that allow multiple sets of field data to reference a single document.

For example, in an accounts payable job, index fields may be set up for check number, check date, payee, invoice number, and invoice date. If you set up all of these fields as index fields, a single document may be represented as follows:

Check Number	Check Date	Payee	Invoice Number	Invoice Date
12345	08/19/2008	ABC Corp	A0001	08/01/2008

Check Number	Check Date	Payee	Invoice Number	Invoice Date
12345	08/19/2008	ABC Corp	A0002	08/02/2008
12345	08/19/2008	ABC Corp	A0003	08/03/2008

The first three index fields (Check Number, Check Date, and Payee) will be duplicated per changing invoice number. Rather than duplicating the information in the first three fields, you can represent the first three fields as index fields and assign the remaining two fields, Invoice Number and Invoice Date, as detail sets.

Index Fields

Check Number	Check Date	Payee	Document ID *
12345	08/19/2008	ABC Corp	654

* The system Document ID is generated behind the scenes, hidden from your view.

Detail Sets

Invoice Number	Invoice Date	Document ID *
A0001	08/01/2008	654
A0002	08/02/2008	654
A0003	08/03/2008	654

Basic and Advanced Indexing Properties

When you view properties for an index, you can toggle between basic and advanced settings to customize the properties required to index your documents. Basic settings include more commonly configured properties, and advanced settings offer more fine-grained properties to help you customize more complex indexing requirements. Basic settings may be sufficient in simpler jobs; in more advanced jobs, such as those involving barcode/OCR parsing and custom code events, advanced settings may need to be configured.

Basic properties include:

- Index Name, Type, and Format
- Validation
- Predefined Index Values
- Barcode, OCR, and Zoom Zone Configuration
- Index Masking
- Auto-Carry/Auto-Increment

Advanced properties include these additional properties:

- Verification Search Strings
- Verification Regular Expressions
- Barcode Parsing
- OCR Parsing
- Custom Code Events (Index Populate and Index Validate)

Switching Between Basic/Advanced Index Properties

The following instructions describe how to toggle between basic and advanced indexing properties.

To toggle between Basic and Advanced indexing properties

1. Click **Add Index** (if you select an existing index to edit, click **Configure Index**). By default, basic index properties appear. See the [Basic Indexing Properties](#) topic for details on specific settings.

The screenshot shows a configuration dialog box titled 'General'. It contains the following elements:

- Name:** A text input field containing 'New Index'.
- Type:** A dropdown menu currently set to 'Text'.
- Format:** A text field containing '<N/A>'.
- Expandable Sections:** A list of sections with expandable arrows: 'Validation', 'Predefined Values', 'Barcode', 'OCR', and 'Miscellaneous'.
- Buttons:** 'Expand All', 'Collapse All', 'OK', and 'Cancel' buttons.
- Link:** A blue underlined link labeled 'Show Advanced Configuration' located at the bottom right.

Basic Index Properties

2. Click the **Show Advanced Configuration** link in the lower right side. The advanced indexing properties appear.

Advanced Index Properties

3. To expand one of the property groups, expand the section title bar (e.g., **General**, **Validation**, **Predefined Values**, etc.).
 - To expand all first-level properties under each section, click **Expand All**.
 - To close all sections, click **Collapse All**.
4. To return to the basic indexing properties, click the **Hide Advanced Configuration** link.

Basic Indexing Properties

When you add an index to the Indexing window, the expandable properties window opens and displays basic properties by default, including index validation, predefined values, barcode, OCR, and miscellaneous properties. Although the basic properties are displayed by default, you can click the Show Advanced Configuration link to show more complex index properties.

Miscellaneous properties include:

- Hot Key Default Value
- Zoom Zone
- Auto-Carry/Auto-Increment
- Auto-Carry Entire Index Value
- Auto-Carry Characters Following/Preceding Number
- Auto-Increment Number
- Overwrite Existing Values

- Carry Values to Copied Document
- Auto-Fill Cursor Location
- Masking

The screenshot shows a dialog box titled 'Basic Index Properties'. The 'General' tab is selected and expanded, showing the following fields:

- Name:** A text input field containing 'New Index'.
- Type:** A dropdown menu set to 'Text'.
- Format:** A text field containing '<N/A>'.

Below the 'General' tab are five collapsed sections: 'Validation', 'Predefined Values', 'Barcode', 'OCR', and 'Miscellaneous'. At the bottom of the dialog are four buttons: 'Expand All', 'Collapse All', 'OK', and 'Cancel'. A blue link labeled 'Show Advanced Configuration' is located at the bottom right.

Basic Index Properties

General Properties

Document index fields contain values that enable you to identify key elements of documents within a project during the capture process. For more information, see [Index Types and Formats](#). The index field name, type (and format, if applicable) are assigned under the General panel menu.

Name - This editable field contains the name of the index value.

Type - The index type indicates whether it is a currency, date, number, text, etc. value.

Format - Depending on the index type you select, you can choose its format (e.g., Boolean can be True/False, Yes/No, On/Off, etc.).

Validation Properties

Validation properties allow you to determine whether index values are required to be a certain type; whether index values can remain blank; and, whether indexing errors can be skipped.

Valid Field Required - If selected, you will be required to enter a valid index value for the field type, such as a date-formatted value for a date field. When not selected, the operator will be allowed to continue and keep the invalid value.

Ignore Indexing Errors - If this setting is selected, incorrect operator input will be ignored and no prompt will appear for the operator. If this setting is not selected, the operator will be notified of an incorrect indexing entry.

Allow Blank Values - This setting is helpful when indexing a match and merge project and a number of fields are left blank that will be matched at a later time.

- Select this setting if the index value can be omitted.
- Do not select this setting if it is required to enter an index value.

Index Re-Key Verification Count - This setting is useful if you want operators to re-type the index value. Select this option, and then type the number of times (from 0 to 99) the operator is required to enter the index value.

Predefined Values Properties

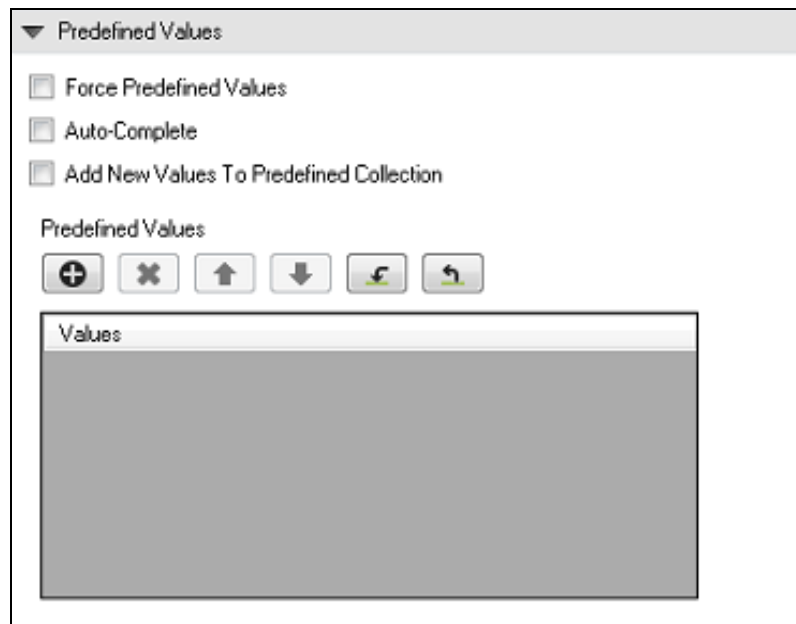
These settings allow you to predefine index field values that can be used repeatedly. You can predefine these values as you configure the index field or these entries can be added to the predefined values list. Your specified predefined values can be used with the Auto-Complete feature to finish information as you type.

NOTE: Predefined index values can be imported into PaperVision Enterprise or ImageSilo only by using the PaperFlow, or the ImageSilo/PVE XML export. The ImageSilo/PVE Direct export does not include predefined index values.

Force Predefined Values - If this setting is enabled, you can only select from your predefined index values. If the entered data is not one of the predefined values, you will be alerted. If this setting is disabled, you can enter a value in the index field.

To assign predefined values to an index

After you have added a new index to the Indexing window (or selected an existing index), expand the **Predefined Values** menu. The **Predefined Values** dialog box appears.



Predefined Values

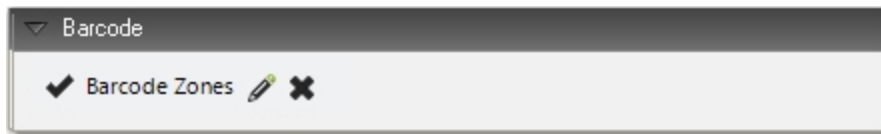
1. **Force Predefined Values** - Select this option if you want to restrict users to only the available predefined values.
2. **Auto-Complete** - Select this option if you want the index field to automatically populate as a user types a value.
3. **Add New Values to Predefined Collection** - Select this option if you want any new value typed by a user added to the predefined value list.
4. Click **Add**, and then type the value you want to add to the predefined value list.
5. Repeat step 4 to add as many predefined values you need.
6. (Optional) To delete a predefined value, select the item from the list, and then click **Delete**.
7. (Optional) To change the order of the predefined value list, select an item, and then click **Up**, or **Down** to move the item to the location you want.
8. (Optional) If you want to import a predefined value list, click **Import**, and then navigate to the file containing the line-delimited list. Click **OK** to import the list.
9. (Optional) If you want to save your predefined value list as a line-delimited .txt file, click **Save As**. Navigate to the location where you want to save the file, and then click **Save**.

Barcode Properties

During index configuration, you can manage barcode zones that you have defined for the selected index.

To manage Barcode zones during index configuration

1. In the Index Properties window, expand the **Barcode** panel menu. If you configured a barcode zone for the index, you will be able to edit and/or delete the zone.



Barcode Zones

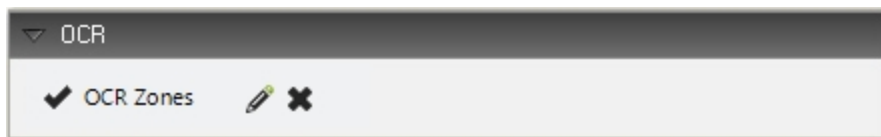
2. Click **Manage** . The **Manage Zones** grid appears. See the **Manage Zones** section in the [Edit Page](#) topic for more information.
3. To delete the barcode Zone, click **Delete**.

OCR Properties

During index configuration, you can manage OCR zones that you have defined for the selected index.

To manage OCR zones during index configuration:

1. In the Index Properties window, expand the **OCR** panel menu. If you configured an OCR zone for the index, you will be able to edit and/or delete the zone.



OCR Zones

2. Click **Manage** . The **Manage Zones** grid appears. See the **Manage Zones** section in the [Edit Page](#) topic for more information.
3. To delete the OCR Zone, click **Delete**.

Miscellaneous Properties

Hot Key Default Value - As operators are keying in index fields and press the assigned hot key, the specified default value will populate the index field.

Zoom Zone - If you configured a zoom zone for the index, you can edit and/or delete the zone.

To edit the zone, click **Manage**. The **Manage Zones** grid appears. See the **Manage Zones** section of the [Home Page](#) topic for more information. To delete the zone, click **Delete**.

Auto-Carry/Auto-Increment

The Auto-Carry/Auto-Increment settings can greatly increase your productivity while hand-keying repetitive or incremental values or characters. Both tools operate during scanning (optional) and hand-keying. To configure these settings, click the ellipsis button in the **Auto-Carry/Auto-Increment** field.

Auto-Carry/Auto-Increment

Note: Auto-Carry settings only apply when you save index values.

Auto-Carry Entire Index Value - This setting allows you to carry all characters from an index in one document to the corresponding index in the next document. You can then enable **Overwrite Existing Values** and/or **Carry Values to Copied Document**.

Auto-Carry Characters Preceding Number - This setting allows you to define the number of characters that precede a number. Your specified number of characters will carry from an index in one document to the corresponding index in the next document. For example, if you have an index that is always (or nearly always) the letters ABC followed by a number, you may not want to continuously re-enter ABC on each index value. You could set the number of characters to carry to 3. When you are keying the information, ABC would automatically get carried forward to the next document and you would only have to enter the numeric portion of the index.

Auto-Carry Characters Following Number - This setting allows you to define the number of characters that follow a number. Your specified number of characters will carry from an index in one document to the corresponding index in the next document. For example, if you have an index that is always (or nearly always) a number followed by the letters ABC, you may not want to continuously re-enter ABC on each index value. You could set the number of characters to carry to 3. When you are keying the information, ABC would automatically get carried forward to the next document and they would only have to enter the numeric portion of the index.

Auto-Increment Number - Auto-Increment takes Auto-Carry one step further. For example, if the numeric portion of the value was an incremental numeric value, you could set Auto-Carry to 3 and Auto-Increment to

1. This would increment the numeric value of any characters remaining after the first three characters by a value of one.

- The Auto-Increment Number can also be used without Auto-Carry if the value is completely numeric.
- The value entered in the Minimum Number Digits field allows you to pad the new value with zeros.
- The Preview section displays the original value and displays a preview of the carried value.

Overwrite Existing Values - By default, Auto-Carry and Auto-Increment do not fill in an index value if there is already information in the index. Selecting this check box will force Auto-Carry and Auto-Increment to update the index regardless of whether information previously existed.

Carry Values to Copied Document - By default, when documents are copied, no index values are carried through to the copies. This allows you to specify that the current index should also be copied, leaving the other indices blank.

Auto-Fill Cursor Location - If you enable this setting, operators are allowed to append to an existing index value. The setting places the cursor's focus at the end of the original index value so the original value is retained.

Note: This determines whether data will be highlighted or the cursor will be placed at the end of the data when hand-keying an index that has the Auto-Carry or Auto-Fill option selected.

Masking

The Masking property allows you to predefine a specific format for index values entered during hand-key indexing. As operators enter index values, their entries will be formatted (masked) automatically. For example, you can predefine social security numbers to automatically insert dashes; as a result, operators only have to hand-key the 9-digit social security numbers and not the dashes.



Configuring this property does not validate the operator's index value entries. Validation is performed as users enter index values in the Indexing window.

To configure index masking

1. In the Indexing Properties window, expand the **Masking** panel menu, and the **Masking** properties appear.

Regular Expression Mask - 5 + 4-Digit Zip Code

2. If you select a **Predefined Value**, select from the **Masking** drop-down list, and then proceed to step 6.
3. If you select a **Custom** mask, enter the **Pattern Expression**. The Pattern Expression is a regular expression that you define for the index mask. For example, for 5 + 4-digit zip codes such as 80231-5606, type the following:

```
(\d{5})(\d{4})
```

4. If necessary, you can define a **Replace Expression** that will automatically format the operator's entry. To format an operator's 9-digit entry to appear as 80231-5606, type the following:

```
$1-$2
```

Note: If you do not define a Replace Expression, the operator's entry will not be formatted.

5. To preview how masking formats the number, enter a sample index value that an operator would hand-key in the **Input Text** field. The resulting masked index value appears in the **Mask Result** field.
6. Click **OK**.

Note: Only the Text, Long Text, and Text (900) index types apply to the Masking property.

Date Regular Expression Mask

The following pattern expression formats either a one- or two-digit month and day followed by a two- or four-digit year:

```
(^\d{1,2})(\d{1,2})(\d{2,4})$
```

1. Enter the following replace expression to separate the month, day, and year with a dash:

\$1-\$2-\$3

2. To separate the month, day, and year with a slash mark, enter:

\$1/\$2/\$3

The screenshot shows a 'Masking' dialog box with the following settings:

- Enabled
- Predefined
- Masking: Social Security (dropdown menu)
- Custom
- Pattern Expression: `[^\d{1,2}][^\d{1,2}][^\d{2,4}$]`
- Replace Expression: `$1/$2/$3`
- Preview section:
 - Input Text: 12212012
 - Mask Result: 12/21/2012

Two-Digit Month and Day with Four-Digit Year

The same pattern expression formats a one-digit month and day followed by a two-digit year:

Masking

Enabled

Predefined

Masking: Social Security

Custom

Pattern Expression: `[^\d{1,2}][\d{1,2}][\d{2,4}$]`

Replace Expression: `$1/$2/$3`

Preview

Input Text: 1109

Mask Result: 1/1/09

One-Digit Month/Day and Two-Digit Year

Credit Card Regular Expression Mask

The following pattern expression formats a 16-digit credit card number:

```
(\d{4}) (\d{4}) (\d{4})$ (\d{4})
```

Enter the following replace expression to separate the digits with a dash:

```
$1-$2-$3-$4
```

Index Types and Formats

Document indices contain values that enable you to identify key elements of documents within a project during the capture process. Indices contain values that enable you to identify key elements of documents during the capture process.

The following types of index fields are supported:

- **Boolean** stores Boolean values such as yes/no, on/off, and true/false.
- **Currency** stores currency (monetary) values.
- **Date** stores date/time values ranging from 12:00:00 midnight, January 1, 0001 through 11:59:59 P.M., December 31, 9999 A.D. This index type also supports searches on date ranges.
- **Double Number** represents a double-precision 64-bit number with values ranging from -1.79769E+308 to 1.79769E+308.

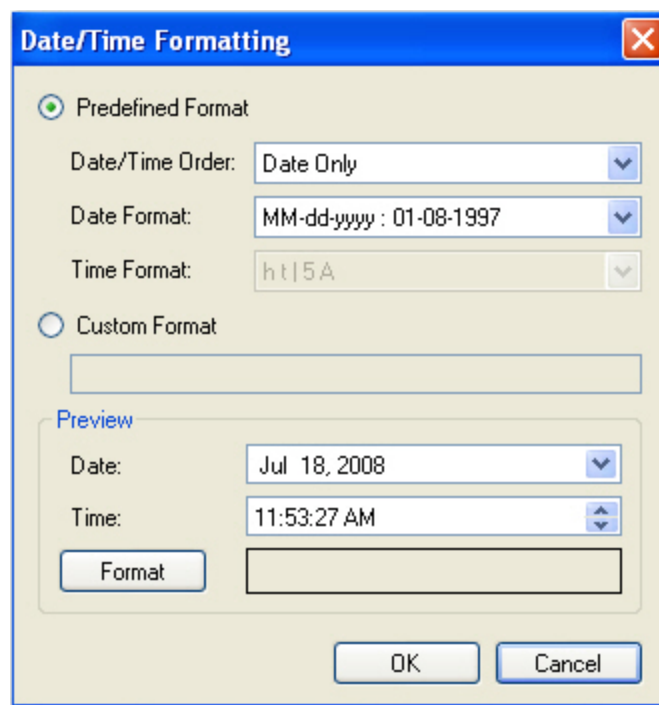
- **Long Text** stores textual data that exceeds 255 characters in length (up to approximately 64,000 characters in total).
- **Number** stores whole-number values between -2,147,483,648 and 2,147,483,647. This index type supports hyphens or dashes at the beginning of the number to indicate a negative value, but it does not support hyphens or dashes within the number, such as dashes within a social security number (555-55-5555). This index excludes these dashes from the number.
- **Text** stores textual data up to 255 characters in length. This type of index is the most common.
- **Text(900)** stores textual data up to 900 characters in length.

Date/Time Formatting

When you select a date index type, you can select from a predefined date/time format or you can customize a date/time format.

To define the date/time format

1. In the Indexing Properties window, expand the **General** panel menu.
2. Select **Date** from the **Type** field.
3. Click the date link next to the **Format** property. The **Date/Time Formatting** dialog box opens.



The image shows a dialog box titled "Date/Time Formatting" with a close button (X) in the top right corner. It contains two radio buttons: "Predefined Format" (selected) and "Custom Format". Under "Predefined Format", there are three dropdown menus: "Date/Time Order" set to "Date Only", "Date Format" set to "MM-dd-yyyy : 01-08-1997", and "Time Format" set to "ht|5A". Below these is an empty text input field. Under "Custom Format", there is also an empty text input field. A "Preview" section contains two dropdown menus: "Date" set to "Jul 18, 2008" and "Time" set to "11:53:27 AM". Below the preview is a "Format" button and an empty text input field. At the bottom of the dialog are "OK" and "Cancel" buttons.

Date/Time Formatting

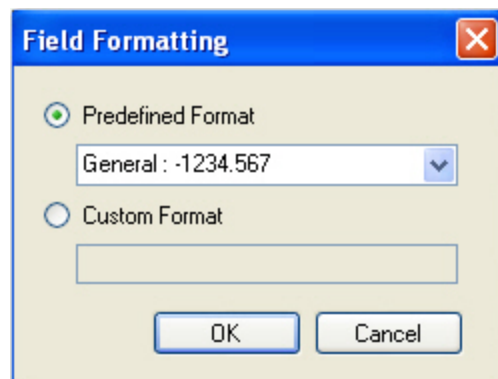
4. Select either a **Predefined Format** (proceed to the next step) or a **Custom Format** (proceed to fifth step).
5. If you select a **Predefined Format**, select from the following **Date/Time Order** options:
 - Date Only
 - Time Only
 - Date/Time
 - Time/Date
6. Depending on your **Date/Time Order** selection, you can choose from the **Date/Time Format** drop-down menus.
7. If you select a **Custom Format**, enter the format in the blank field.
8. To preview a Predefined or Custom format, click the **Format** button in the **Preview** section.
9. If you need to preview a calendar, click the **Date** drop-down menu.
10. If you need to set the time, enter it in the **Time** field or use the up or down arrows to set the time.
11. Click **OK**.

Double Number Formatting

When you select a Double Number index type, you can select a predefined or custom format.

To define the double number format

1. Click the ellipsis button in the right column of the **Index Format** field, which opens the **Field Formatting** dialog box.



Field Formatting

2. Select either a **Predefined Format** (proceed to the next step) or a **Custom Format** (proceed to the fourth step).
3. If you select a **Predefined Format**, select from the following format types:
 - Currency
 - Fixed
 - General
 - Percent

- Scientific
 - Standard
4. If you select a **Custom Format**, enter the format in the blank field
 5. Click **OK** when finished.

Advanced Indexing Properties

Advanced indexing properties enable you to configure index verification search strings/regular expressions, barcode and OCR parsing, and custom code events. Additional (Miscellaneous) properties available for configuration include automated index validation/populating of custom code events. To view advanced properties for an index, Click **Add Index** (if you select an existing index to edit, click **Configure Index**). By default, basic index properties appear. See the [Basic Indexing Properties](#) topic for details on specific settings. To view advanced properties, click **Show Advanced Configuration** in the bottom right of the Indexing Properties window.

The screenshot shows a dialog box titled "Advanced Indexing Properties". It is organized into several sections:

- General:** Contains a "Name:" field with the text "Company name", a "Type:" dropdown menu set to "Text", and a "Format:" field with the text "<N/A>".
- Validation:** Contains four checkboxes:
 - Valid Field Required
 - Ignore Indexing Errors
 - Allow Blank Values
 - Index Re-Key Verification Count (with a text input field containing "0")
- Predefined Values:** A section header with a right-pointing triangle.
- Barcode:** A section header with a right-pointing triangle.
- OCR:** A section header with a right-pointing triangle.
- Miscellaneous:** A section header with a right-pointing triangle.

At the bottom of the dialog, there are four buttons: "Expand All", "Collapse All", "OK", and "Cancel". Below the "OK" and "Cancel" buttons is a blue hyperlink labeled "Show Advanced Configuration".

Advanced Indexing Properties

Validation

The Validation setting is used to validate index values before an export is processed. Select which options are to be applied to the validation process:

Valid Field Required - If selected, you will be required to enter a valid index value for the field type, such as a date-formatted value for a date field. When not selected, the operator will be allowed to continue and keep the invalid value.

Ignore Indexing Errors - If this setting is selected, incorrect operator input will be ignored and no prompt will appear for the operator. If this setting is not selected, the operator will be notified of an incorrect indexing entry.

Allow Blank Values - This setting is helpful when indexing a match and merge project and a number of fields are left blank that will be matched at a later time.

- Select this setting if the index value can be omitted.
- Do not select this setting if it is required to enter an index value.

Index Re-Key verification Count - This setting is useful if you want operators to re-type the index value. Select this option, and then type the number of times (from 0 to 99) the operator is required to enter the index value.

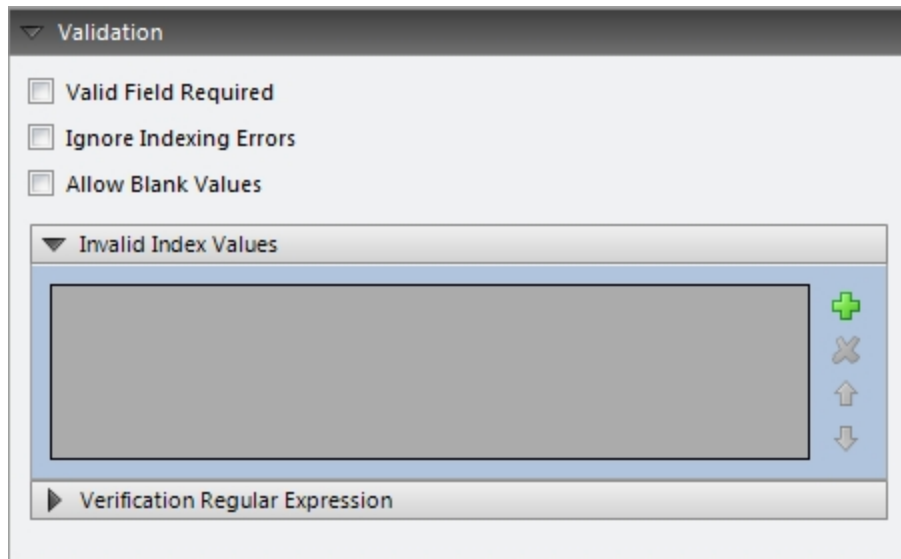
Invalid Index Values

The Invalid Index Value setting is used to validate index values when you save index values, tab to the next field, or export the batch. To ensure the accuracy of hand-key indexing, you can define multiple search strings that can be verified when you save your index values or when you execute the Verify Index Values operation. For example, you can assign individual characters or numbers to search for during the index verification process.

Depending on your index verification settings in the user **Display Preferences** (Verify Starts from Current Document Forward or Verify Starts at the Beginning of the Batch), the index verification process starts with the appropriate document in the batch and will highlight the next document that contains your defined search strings.

To assign verification search strings

1. Click **Add Index** (if you select an existing index to edit, click **Configure Index**). By default, basic index properties appear. See the [Basic Indexing Properties](#) topic for details on specific settings.
2. In the properties window, switch to the advanced properties view (click the **Show Advanced Configuration** link in the lower right).
3. Expand the **Validation** menu.
4. Expand the **Invalid Index Values** sub-menu.



Verification Search Strings

5. Click **Add**, and a blank line will appear.
6. Enter the search string.
7. Enter any subsequent search strings, if necessary.
8. To remove a search string, highlight the string, and then click **Remove**.
9. To move a search string up or down in the list, highlight the string, and then click the **Up** or **Down** arrow.
10. Click **OK**.

Verification Regular Expressions

You can create a regular expression to validate data entry. A regular expression is a pattern of text that consists of ordinary characters (for example, letters A through Z) and special characters, known as metacharacters. The pattern describes one or more strings to match when searching a body of text. The regular expression serves as a template for matching a character pattern to the string being searched.

To assign verification regular expressions

1. Click **Add Index** (if you select an existing index to edit, click **Configure Index**). By default, basic index properties appear. See the [Basic Indexing Properties](#) topic for details on specific settings.
2. In the properties window, switch to the advanced properties view (click the **Show Advanced Configuration** link in the lower right).
3. Expand the **Validation** menu.
4. Expand the **Verification Regular Expression** submenu.

Verification Regular Expression

5. Enter the regular expression.
6. Enter the text to validate. Your entry will automatically be validated.
 - A successful validation displays with a green check mark.
 - Invalid entries display with a red X.
7. Optionally, you can create a custom error message if users enter incorrect index values. To enable this feature, select the **Custom Error Message** option.
8. Enter the custom error message text.
9. Click **OK**.

Barcode Parsing

During indexing configuration, you can configure a text delimiter or a regular expression to parse specific index fields from a barcode. You can then specify which field's index is parsed from the barcode (e.g., you can select the third field's index so only the last four digits of a social security number are parsed). Optionally, you can verify that an exact number of index fields results from the parse operation (e.g., three index fields indicative of a social security number in the format xxx-xx-xxxx).

Note: The **Verify Number of Fields** setting is intended to verify that an exact number of index fields (two or more) results from the parse operation.

If errors occur during barcode parsing, such as when the parsed number of index fields differs from your specified number of fields, you can select one of three subsequent actions. First, the entire index value can be skipped (therefore, no barcode parsing occurs). In the second option, the entire barcode value is used (therefore, no barcode parsing occurs). In the last option, you can specify the text used as the parsed value (e.g., you can enter "unknown value").

To configure barcode parsing

1. Click **Add Index** (if you select an existing index to edit, click **Configure Index**). By default, basic index properties appear. See the [Basic Indexing Properties](#) topic for details on specific settings.
2. In the properties window, switch to the advanced properties view (click the **Show Advanced Configuration** link in the lower right).
3. Expand the **Barcode** menu.
4. Expand the **Barcode Parsing** submenu. The **Barcode Parsing** properties appear.

Barcode Parsing

5. In the **Delimiter** section, select whether to use a text delimiter or regular expression to split the original index value into fields. If you enter an invalid text delimiter or regular expression, the error symbol will appear to the right of the field.

Note: Additional information on regular expressions can be located at: <http://msdn.microsoft.com/en-us/library/az24scfc.aspx>

6. In the **Field Parsing** section, specify the field index position from which to parse data.
7. Optionally, you can verify that an exact number of index fields (two or more) results from the parse operation.

For example, you can set the **Field Index** value to “3” to parse only the last four digits of a social security number that exists in the format xxx xx xxxx. You can then select the **Verify Number of**

Fields option to verify that three index fields (indicative of a social security number) result from the parse operation.

8. In the **Parsing Errors** section, select the action that will be executed if parsing errors occur:
 - **Skip Index Value:** The entire index value is skipped, so no barcode parsing occurs.
 - **Use Complete Barcode Value:** The complete barcode value is used, so no barcode parsing occurs.
 - **UseText:** Your specified text is used as the parsed value.
9. In the **Preview** section, you can enter a sample index value to ensure the text delimiter or regular expression parses the value correctly.

Barcode Parsing - Configured

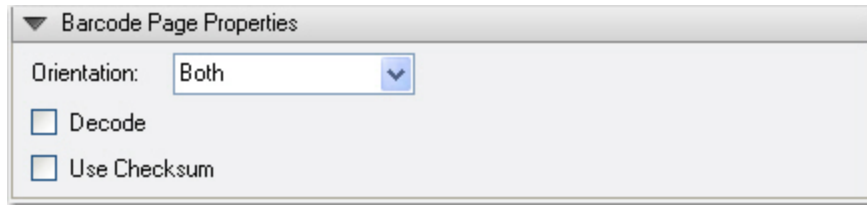
Barcode Page Properties

Advanced barcode page properties include settings for barcode orientation detection, decoding special characters, and checksum error detection.

To configure advanced barcode page properties

1. Click **Add Index** (if you select an existing index to edit, click **Configure Index**). By default, basic index properties appear. See the [Basic Indexing Properties](#) topic for details on specific settings.
2. In the properties window, switch to the advanced properties view (click the **Show Advanced Configuration** link in the lower right).

3. Expand the **Barcode** menu.
4. Expand the **Barcode Page Properties** submenu. The **Barcode Page Properties** appear.



Barcode Page Properties

Orientation - PaperFlow detects horizontal and vertical barcodes with skew angles of no more than fifteen degrees from the horizontal and vertical axes, respectively. Horizontal barcode detection is slightly faster than vertical barcode detection. If you are unsure of the expected barcode orientation or if the documents might contain barcodes with different orientations, select **Both** from the drop-down menu.

Decode - Some barcode types, such as Code 128, do not represent their data as ASCII characters. Other barcode types, such as Code 3 of 9, use special characters to extend the basic character set to include the entire ASCII set. When this setting is enabled, barcode values are converted into human-readable ASCII strings. For example, if the barcode uses escape characters, as in "%K123%M?", and the Decode property is **True**, then "[123]" will be returned. If the Decode property is **False**, the raw barcode is returned.

Note: You should enable this setting unless the barcode results should not be converted into ASCII strings. For example, this setting should be disabled if you are detecting Code 3 of 9 barcodes that represent dates using the slash mark "r;/" character (e.g. 01/01/1999). If this setting is enabled, no results are returned because "r;/0" and "r;/1" are not valid ASCII characters.

Use Checksum - A checksum is an error detection process where additional characters are appended to a barcode to ensure more accurate readings. Enable this setting if you want the checksum to be recognized during the scanning process.

OCR Parsing

During indexing configuration, you can configure a text delimiter or a regular expression to parse specific index fields from OCR text. You can then specify which field's index is parsed (e.g., the fourth field's index from a credit card number). Optionally, you can verify that an exact number of index fields results from the parse operation (e.g., four index fields indicative of a complete credit card number).

Note: The **Verify Number of Fields** setting is intended to verify that an exact number of index fields (two or more) results from the parse operation.

If errors occur during OCR parsing, such as when the parsed number of index fields differs from your specified number of fields, you can select one of three subsequent actions. First, the entire index value can be skipped (therefore, no OCR parsing occurs). In the second option, the entire OCR value is used (therefore, no OCR parsing occurs). In the last option, you can specify the text used as the parsed value (e.g., you can enter "unknown value").

To configure OCR parsing

1. Click **Add Index** (if you select an existing index to edit, click **Configure Index**). By default, basic index properties appear. See the [Basic Indexing Properties](#) topic for details on specific settings.
2. In the properties window, switch to the advanced properties view (click the **Show Advanced Configuration** link in the lower right).
3. Expand the **OCR** menu.
4. Expand the **OCR Parsing** submenu. The **OCR Parsing** properties appear.

The screenshot shows the 'OCR Parsing' configuration window. It is divided into several sections:

- Delimiter:** Two radio buttons are present. 'Text' is selected, and its corresponding text box is empty. 'Regular Expression' is unselected, and its text box is also empty.
- Field Parsing:** 'Field Index' is a dropdown menu set to '1'. 'Verify Number of Fields' is a checkbox that is unchecked, with a dropdown menu set to '2'.
- Parsing Errors:** Three radio buttons are present. 'Use Text' is selected, and its text box is empty. 'Skip Index Value' and 'Use Complete OCR Value' are unselected.
- Preview:** 'Value' is an empty text box. 'Result' is a text box containing '<N/A>'.

At the bottom of the window, there are four buttons: 'Expand All', 'Collapse All', 'OK', and 'Cancel'. A blue link labeled 'Hide Advanced Configuration' is located below the 'OK' and 'Cancel' buttons.

OCR Parsing

5. In the **Delimiter** section, select whether to use a text delimiter or regular expression to split the original value into fields. If you enter an invalid text delimiter or regular expression, the error symbol will appear to the right of the field.

Note: Additional information on regular expressions can be located at: <http://msdn.microsoft.com/en-us/library/az24scfc.aspx>

6. In the **Field Parsing** section, specify the field index position from which to parse data.
7. Optionally, you can verify that an exact number of index fields (two or more) results from the parse operation.

For example, you can set the **Field Index** value to “4” to parse only the last four digits of a credit card number. You can then select the **Verify Number of Fields** option to verify that four index fields (indicative of a social security number) result from the parse operation.

- **Skip Index Value:** The entire index value is skipped, so no OCR parsing occurs.
 - **Use Complete OCR Value:** The complete OCR value is used, so no OCR parsing occurs.
 - **Use Text:** Your specified text is used as the parsed value.
8. In the **Parsing Errors** section, select the action that will be executed if parsing errors occur:
 9. In the **Preview** section, you can enter a sample index value to ensure the text delimiter or regular expression parses the value correctly.

The screenshot shows the 'OCR Parsing' configuration window. It is divided into four main sections:

- Delimiter:** The 'Text' radio button is selected, with a text box containing a hyphen (-). The 'Regular Expression' radio button is unselected.
- Field Parsing:** The 'Field Index' is set to 4. The 'Verify Number of Fields' checkbox is checked, and its value is also set to 4.
- Parsing Errors:** The 'Use Text' radio button is selected, with a text box containing 'unknown value'. The other two options, 'Skip Index Value' and 'Use Complete OCR Value', are unselected.
- Preview:** The 'Value' field contains the string '4444-4444-4444-4444'. The 'Result' field contains the string '4444'.

OCR Parsing (Configured)

Custom Code

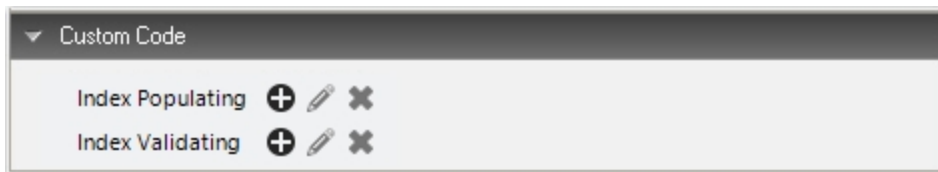
To configure advanced custom code properties

1. Click **Add Index** (if you select an existing index to edit, click **Configure Index**). By default, basic index properties appear. See the [Basic Indexing Properties](#) topic for details on specific settings.
2. In the properties window, switch to the advanced properties view (click the **Show Advanced Configuration** link in the lower right).
3. Expand the **Custom Code** menu, and the following properties can be configured:

Index Populating and Index Validating Custom Code Events

The advanced custom code event properties, Index Populating and Index Validating, allow you to select either Visual Basic or C# code to configure an action triggered immediately after an index field is populated (and you return to re-enter the index value) or validated by the system. The Index Validate event is triggered after you return to edit an index value, re-enter the index value, and then proceed to a subsequent index field (or save the edited index value).

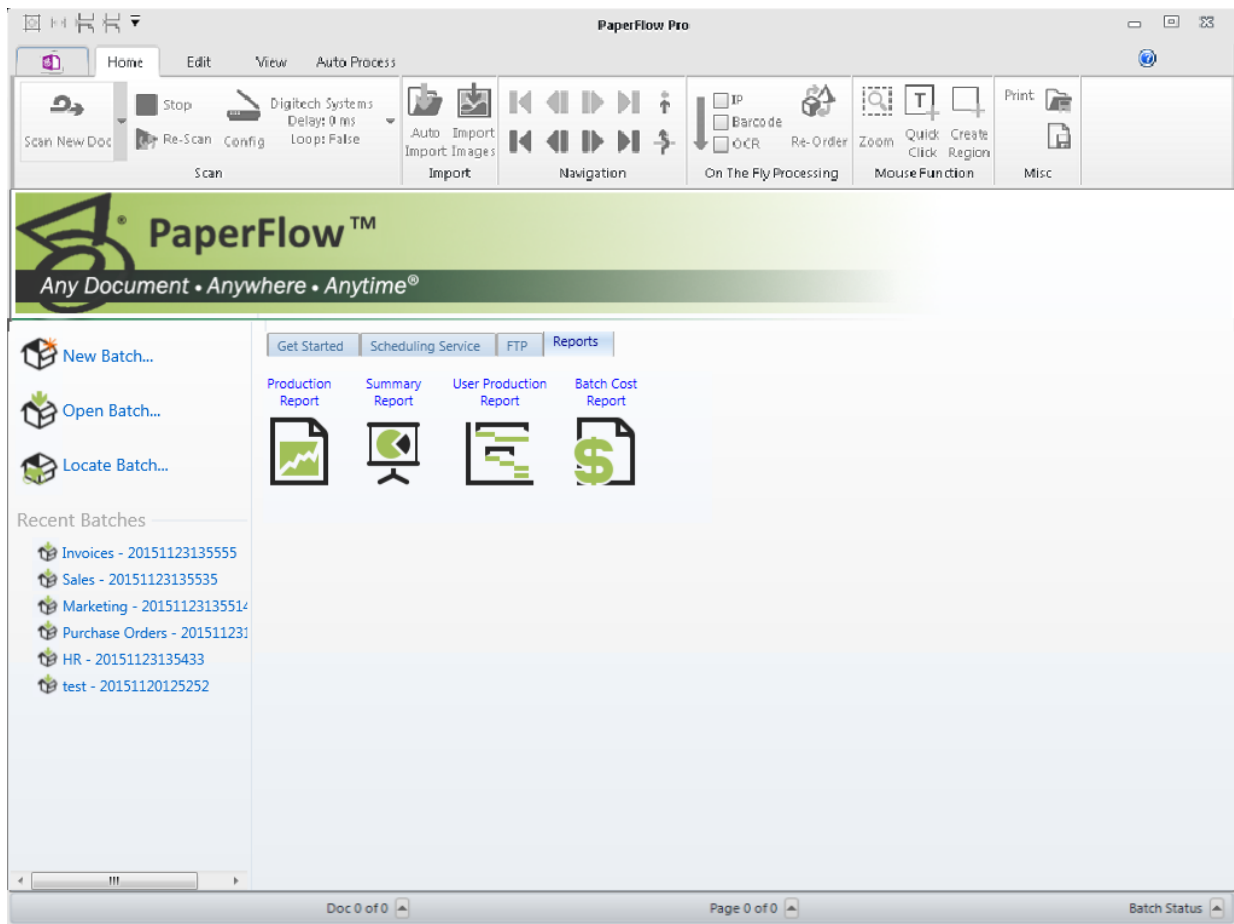
If you use either of these Custom Code Events to change an index value, the Indexing window will remain synchronized using the UIRefreshLevel property (e.g., "base.UIRefreshLevel =UIRefreshLevel.Index"). See the section on API Functions in the Custom Code Configuration topic for a list of API functions and associated enumerations that can be used within Custom Code.



Custom Code Indexing Events

Chapter 4 - Reports

The **Home** page of PaperFlow contains a **Reports** tab. The tab contains four reports of which three can be customized.



Reports Tab

Production Report

The Production Report contains production information about the selected batch: User, Date, Elapsed Time, Number Scanned Images, and Hand-Keyed Indexes. This report can be customized with the following additional columns: Total Number Images, Number Pages Barcoded, Match & Merge Indexes, Total Characters Saved, Number Successful Full-Text Documents, Number Successful Full-Text pages, and Number Successful OCR Index Reads.

1. From the **Home** screen, click the **Reports** tab.
2. Click **Production Report**.
3. Select the batch on which to run the report from the **Batch** list.
4. Click the **Generate Report** button.

The screenshot shows the 'Production Report' window. On the left, there is a 'Batch' list with columns 'Batch' and 'Last Updated'. The main area displays a report for 'Test Job - 20130720166' with a 'Generate Report' button. The report details include: Batch Name: Test Job - 20130720165431, Job Name: Test Job, Generated By: pcartee, Date: 10/11/2013 08:04:19 AM. Below this is a table with the following data:

User	Date	Elapsed Time	Number Scanned Images	Hand-Keyed Indexes	Match & Merge Indexes	Number Failed OCR Index Reads
pcartee	10/08/2013	00:01:18	0	0	0	0
pcartee	10/09/2013	00:00:05	0	0	0	0
pcartee	10/09/2013	00:00:08	0	0	0	0
pcartee	10/09/2013	00:00:02	0	0	0	0
pcartee	10/09/2013	00:00:00	0	0	0	0
pcartee	10/09/2013	00:00:01	0	0	0	0
pcartee	10/09/2013	00:00:01	0	0	0	0
pcartee	10/09/2013	00:00:00	0	0	0	0
pcartee	10/09/2013	00:00:00	0	0	0	0
pcartee	10/09/2013	00:00:00	0	0	0	0
pcartee	10/09/2013	00:00:05	0	0	0	0
pcartee	10/10/2013	00:00:11	0	0	0	0
pcartee	10/10/2013	00:00:38	0	0	0	0
pcartee	10/10/2013	00:00:06	0	0	0	0
Total:		0:00:02:52	0	0	0	0

Production Report

Summary Report

The Summary Report contains the following information about the selected batch: Job Name, Document Count, Populated Index Field Count, Blank Index Field Count, Index Field Characters Count, Index Field Keystrokes Count, Average Pages per Documents, Average Index Fields Populated per Document, Number OCR Full-Text Documents, Number OCR Full-Test Pages, Number OCR Indexes Read Successfully, Number OCR Indexes Failure to Read, Number of Images, and Number of Pages. This report cannot be customized.

1. From the **Home** screen, click the **Reports** tab.
2. Click **Summary Report**.
3. Select the batch on which to run the report from the **Batch** list.
4. Click the **Generate Report** button. The report displays.

The screenshot shows a software interface for generating a Summary Report. On the left, there is a 'Filter Batches' dropdown and a 'Generate Report' button with a green arrow. Below this is a table of batches with columns for 'Batch' and 'Last Updated'. The selected batch is 'Test Job - 20141009095...' with a last updated time of '10/9/2014 1:57 PM'. The main area displays the report details for this batch, including a logo, a 'Summary Report' title, and a table of statistics.

Batch	Last Updated
Test Job - 20140930085...	10/8/2014 12:31 PM
Test Job - 20141001125...	10/1/2014 3:54 PM
Test Job - 20141002083...	10/2/2014 11:33 AM
ACME Accounting	10/2/2014 3:16 PM
HR - 20141002151659	10/2/2014 3:17 PM
Sales - 20141002151717	10/2/2014 3:17 PM
Marketing - 2014100215...	10/8/2014 2:50 PM
Test Job - 20141006101...	10/8/2014 5:32 PM
New Job Name - 201410...	10/8/2014 10:08 AM
Test Job - 20141009095...	10/9/2014 1:57 PM

Summary Report	
Batch :	Test Job - 20141009095639
Job Name :	Test Job
Generated By :	dwight
Date :	10/09/2014 04:37:31 PM
Job Name :	Test Job
Document Count :	2
Populated Index Field Count :	2
Blank Index Field Count :	Not recorded
Index Field Characters Count :	16
Index Field Keystrokes Count :	16
Average Pages per Document :	4.00
Average Index Fields Populated per Document :	1.00
Number OCR Full-Text Documents :	6
Number OCR Full-Text Pages :	24
Number OCR Indexes Read Successfully :	0
Number OCR Indexes Failure to Read :	0
Number of Images :	16
Number of Pages :	8

Summary Report

User Production Report

The User Production Report contains the following information about the selected batch: Time, Batch, Elapsed Time, Number Scanned Images, and Hand-Keyed Indexes. This report can be customized with the following columns: Total Number Images, Number Pages Barcoded, Match & Merge Indexes, Total Characters Saved, Number Successful Full-Text Documents, Number Successful Full-Text Pages, Number Failed OCR Index Reads, and Number Successful OCR Index Reads.

1. From the **Home** screen, click the **Reports** tab.
2. Click **User Production Report**.
3. Select the batch on which to run the report from the **Batch** list.
4. Click the **Generate Report** button. The report displays.

10/06/2014| 09:36:50 AM | Test Job - 20140930085202 | 00:35:45 | 0 | 0 |
10:14:09 AM	Test Job - 20140930085202	00:01:32	0	0
10:16:54 AM	Test Job - 20141006101614	01:10:40	0	0
Sub-Total:		**01:47:57**	**0**	**0**

 The window also shows a logo on the left, user information (User: dwight, Generated By: dwight, Date: 10/20/2014 04:11:39 PM), and a 'Close' button at the bottom right."/>

User Production Report

Batch Cost Report

The Batch Cost Report contains the following information about the selected batch: Time, Username, Elapsed Time, Number Scanned Images, and Hand-Keyed Indexes. This report can be customized with the following columns: Total Number Images, Number Pages Barcoded, Match & Merge Indexes, Total Characters Saved, Number Successful Full-Text Documents, Number Successful Full-Text Pages, Number Failed OCR Index Reads, and Number Successful OCR Index Reads.

1. From the **Home** screen, click the **Reports** tab.
2. Click **Batch Cost Report**.
3. Select the batch on which to run the report from the **Batch** list.
4. Click the **Generate Report** button. The report displays.

Time	Username	Elapsed Time	Number Scanned Images	Hand Keyed Indexes
10/02/2014				
08:37:16 AM	dwight	00:00:08	0	0
08:44:33 AM	dwight	00:16:52	0	1
09:01:33 AM	dwight	00:09:11	0	0
09:10:53 AM	dwight	00:16:06	0	1
09:28:55 AM	dwight	00:05:01	0	0
09:34:39 AM	dwight	01:58:54	0	0
Sub-Total:		02:46:12	0	2
TOTAL:		02:46:12	0	2

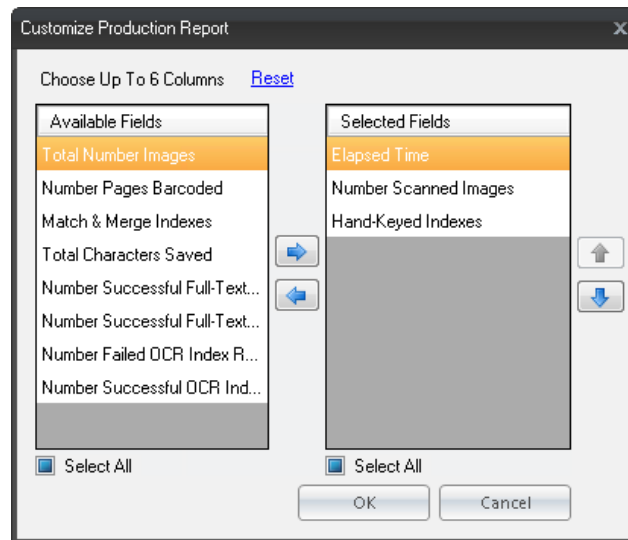
Batch Cost Report

Customizing Reports

Each report is customized using the same steps. Use these steps to select the columns that will appear in the report.

Note: The Summary report cannot be customized.

1. At the **Home** screen, select the **Reports** tab.
2. Select the report to be customized.
3. Click the **Customize Report** button. The **Customize Report** dialog displays.



Customize Report

4. In the **Available Fields** section on the left, highlight the names of the columns to be included in the report and then click the right arrow .
5. Optionally, highlight columns in the **Selected Fields** section and click the left arrow to remove them from the report.
6. Use the up and down arrows on the right of the **Selected Fields** section to adjust the placement of the columns in the report. Column names at the top of the list display first in the report.

Note: Click the Reset link at the top of the dialog to set the column choices back to the original settings.

7. Click **OK** to save the changes.

Report Properties

The following table summarizes each report property.

Report Property	Definition
Average Index Fields Populated per Document	This is the average number of index fields populated per document.
Average Pages per Document	This is the average number of pages per document.
Blank Index Field Count	This is the total number of blank indexes.
Document Count	This is the total number of documents contained in the batch.
Elapsed Time	The length of time the batch was open.
Hand-Keyed Indexes	This is the total number of indexes that were hand keyed.
Index Field Characters Count	This is the total number of characters in all the indexes in the batch.
Index Field Keystrokes Count	This is the total number of keystrokes in all the indexes in the batch.
Match & Merge Indexes	This value is the total number of indexes populated only by Match and Merge.
Number Failed OCR Index Reads	This is the total number of times the OCR engine does not successfully populate an index field.
Number of Images	This is the total number of images contained in the batch.
Number of Pages	This is the total number of pages contained in the batch.
Number Pages Barcoded	This is the number of pages from which one or more barcodes were read.
Number Scanned Images	This is the total number of images that were scanned.
Number Successful Full-Text Documents	This is the total number of documents that have been successfully OCR'd (full-text).
Number Successful Full-Text Pages	This is the total number of pages that have been successfully OCR'd (full-text).

Report Property	Definition
Number Successful OCR Index Reads	This is the total number of times the OCR engine successfully populates an index field.
Populated Index Field Count	This value is the total number of populated indices saved by the operator.
Total Characters Saved	This is the total number of characters the operator has entered upon saving index values.
Total Number Images	This is the total number of images contained in the batch.

Working with Reports

Reports can be printed, saved to various formats, and displayed in various sizes.

Print the Report

1. Open the report.
2. Select a batch on which to run the report.
3. Click the Generate Report button.
4. After the report runs, click print .

Save the Report

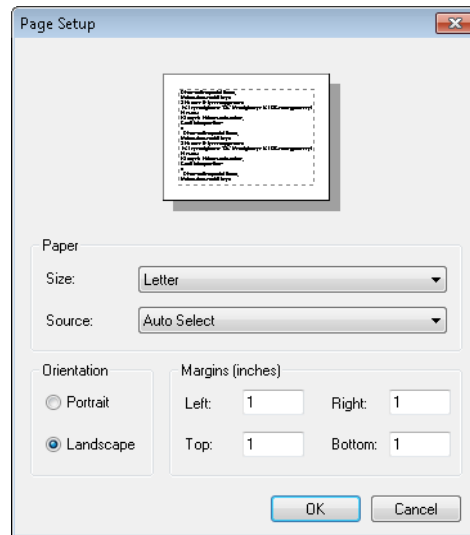
The report can be saved in the following formats: Excel, PDF, and Microsoft Word.

1. Run the report to be saved.
2. On the **Report** window, select the format in which you want to save the report:
 - Excel
 - PDF
 - Word
3. Navigate to the directory in which the report will be saved.
4. Enter a name for the file, and then click **Save**.

Set Up the Report Page

The Report page can be setup to reflect your organization's page format.

1. Open the report.
2. Select a batch on which to run the report.
3. Click the **Generate Report** button.
4. After the report runs, click **Page Setup**. The Page Setup dialog displays.



Page Setup

5. Select the paper size and source from the list, Select the orientation and margins. Then click **OK** to save the changes.

Zooming in and out

With the report open, select a zoom option from the drop-down list.

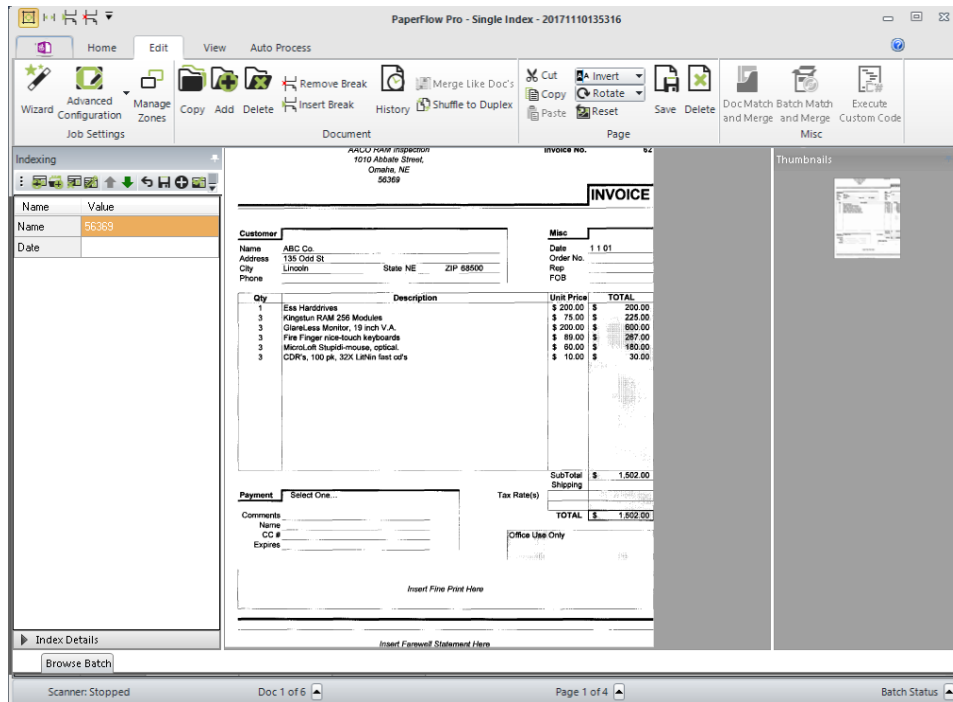
Searching the report

If the report contains a large amount of information, the user can search the report by using the **Find** field at the top of the Report window.

1. In the **Find** field, enter the name of the information being searched.
2. Click **Find** to search for the information.
3. Click **Next** to find the next occurrence of the information.

Chapter 5 - Edit Page

The **Edit Page** contains Job Settings, document, and page manipulation operations such as the Cut, Copy, and Paste Pages/Documents, and the Misc task group that provides merge task and the ability to execute custom code. In addition, you can insert and remove document breaks from this page; invert and rotate pages; merge documents containing matching index values; and, shuffle documents to duplex. In addition, you can save images after you rotate or invert them. You can also index documents (and all associated indexing operations) within the **Edit** page.



Edit Page

Document Operations

Copying a Document

The Copy Document command copies all pages and appends the new document after the selected document.

To copy a document

1. Open the appropriate document.
2. Click **Copy**.
3. Enter the number of copies to create, and then click **OK**.

Adding a Document

The Add Document command appends a blank document to the end of the batch. You can subsequently scan and import images into the new document and enter index values.

To add a document

1. Open the appropriate document.
2. Click **Add Document**. The blank document appears at the end of the batch. You can then import or scan images into the new document (and enter index values if required).

Deleting Documents

The Delete Document command deletes the current document and its associated images.

To delete a document

1. Open the appropriate document.
2. Click **Delete**.
3. If the Browse Batch window is viewable, you can delete one or more documents from the list.
4. To proceed with the deletion, click **Yes**.

To delete one or more documents from the Browse Batch window

1. Select one or more documents in the list.
2. Right-click and select **Delete Documents**.
3. To proceed with the deletion, click **Yes**.

Inserting an Auto Document Break

While scanning documents, you can determine where one document ends and the next document begins by inserting an Auto Document Break. This operation makes your selected page the first page of the new document.

To insert an auto document break

1. Navigate to the page where the document break will be placed.
2. Click **Insert Document Break**.
3. If you want to save the index values, click **Yes**.
4. Selecting **No** will not save the index values, but will insert a document break.
5. Selecting **Cancel** will abort both operations.
6. If you want the marked page to be the first page of the new document, click **Yes**.

Removing a Document Break

If you inserted a document break and no longer want to keep it, you can remove the break and place the pages from the current document at the end of the previous document.

To remove a document break

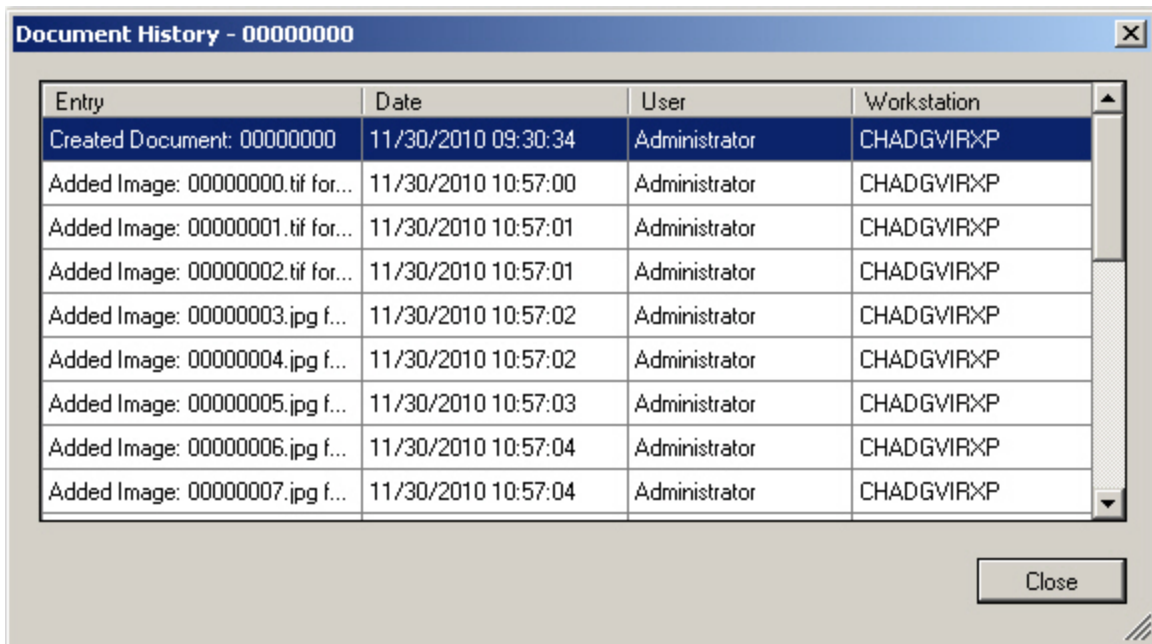
1. Navigate to the page where the document break was placed.
2. Right click on the page and select **Remove Break**.

Note: You cannot remove a document break for the first document in the batch.

3. Choose from the following:
 - Click **Yes** to remove the document break, and the current document will be merged with the previous document.
 - or
 - Select **No**, and the document break will not be removed.

Document History

The Document History operation lists all actions performed on the document, such as its creation date and name, image additions and deletions, and index additions and updates. To view a document's history, click the Document History icon.



The screenshot shows a window titled "Document History - 00000000". It contains a table with the following data:

Entry	Date	User	Workstation
Created Document: 00000000	11/30/2010 09:30:34	Administrator	CHADGVIRXP
Added Image: 00000000.tif for...	11/30/2010 10:57:00	Administrator	CHADGVIRXP
Added Image: 00000001.tif for...	11/30/2010 10:57:01	Administrator	CHADGVIRXP
Added Image: 00000002.tif for...	11/30/2010 10:57:01	Administrator	CHADGVIRXP
Added Image: 00000003.jpg f...	11/30/2010 10:57:02	Administrator	CHADGVIRXP
Added Image: 00000004.jpg f...	11/30/2010 10:57:02	Administrator	CHADGVIRXP
Added Image: 00000005.jpg f...	11/30/2010 10:57:03	Administrator	CHADGVIRXP
Added Image: 00000006.jpg f...	11/30/2010 10:57:04	Administrator	CHADGVIRXP
Added Image: 00000007.jpg f...	11/30/2010 10:57:04	Administrator	CHADGVIRXP

A "Close" button is located at the bottom right of the window.

Document History

Merging Like Documents

This operation merges selected documents containing the same index values. The Merge Like Documents job setting must be configured for this operation. See the [Advanced Configuration](#) topic for more information.

To merge documents containing the same index values

1. Enter the required index value(s) for all documents.
2. In the **Edit** page, click **Merge Like Documents**. If the Browse Batch window is viewable, documents with matching index values will be combined into one document.

Note: Documents must contain matching index values in order to be merged. For example, in a batch containing three documents, one document contains a blank index value; the other two documents have a matching index value of 80111. Only the two documents with 80111 index values will be merged.

3. If you are merging a large volume of documents, a progress message appears during document analysis, prior to the document merge. During analysis, you can click the **Cancel** button to cancel the merge process and return to the job step screen.

Note: Depending on the number of documents that comprise the batch, document analysis may take a few minutes to complete.

4. Click **OK** to the confirmation message.

Shuffling a Document to Duplex

This operation shuffles the first half of the pages, and they become the odd pages. The remaining half of the pages becomes the even pages, and these pages are placed in reverse order. The document must contain an even number of pages to shuffle.

Warning! This command is irreversible.

To shuffle a document to duplex

1. In the **Edit** page, click **Shuffle Document to Duplex**.
2. Click **Yes** to proceed with the shuffle.

Page Operations

You can cut, copy, and paste one or multiple pages within the Edit page. The cut, copy, and paste operations can be performed on consecutive or non-consecutive pages in one document or across multiple documents.

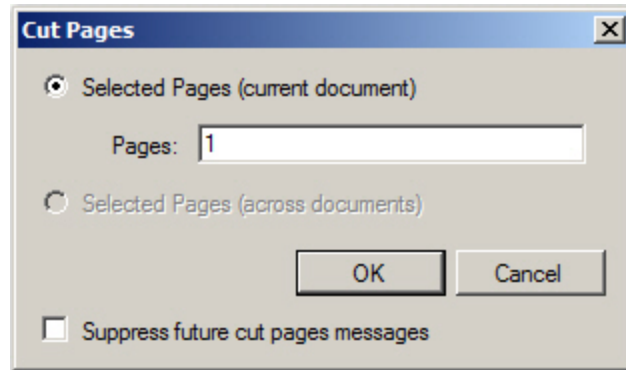


You can also right-click on a page or within the multiple display view or the Thumbnails window to cut, copy, and paste pages.

Cutting and Pasting

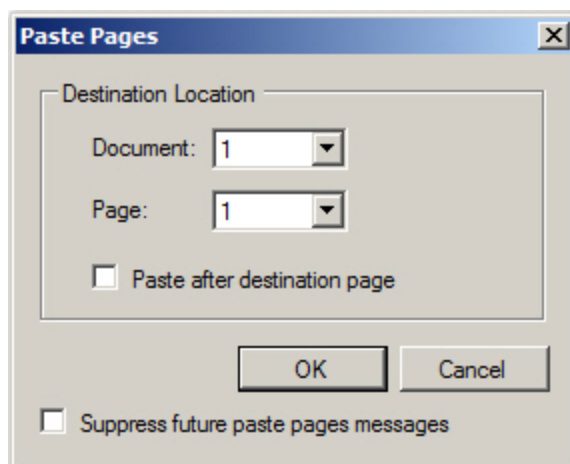
To cut and paste pages

1. Navigate to the page in the document (or, select one or more pages in multiple display or Thumbnails).
2. Click **Cut**. The **Cut Pages** dialog box appears.



Cut Pages

3. If you selected pages within the same document, the first option, **Selected pages (current document)**, is selected. For this option, the selected pages are listed in the Pages field. If you selected pages across multiple documents, the second option, **Selected pages (across documents)**, would be selected. Ensure the appropriate option is selected, and then click **OK**.
4. In the Thumbnails window or multiple display view, selected pages appear with the **Cut** icon in the upper right. Navigate to the page in the document where the pages will be pasted.
5. Click **Paste**. The **Paste Pages** dialog box appears.



Paste Pages

6. Your selected document and page number appear in the **Paste Pages** dialog box. To change your selection, enter the appropriate document and page number.

- By default, the pages are pasted directly before your selected location. If you want them pasted after your destination page, select the option, **Paste after destination page**.

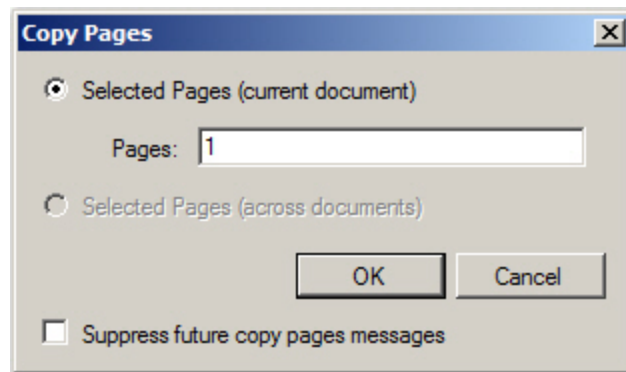


To prevent the confirmation message from appearing each time you perform this operation, select the Suppress future cut/paste pages messages option. To show the message once again, select the **PaperFlow Button > Preferences > System Messages**, and select the applicable property.

Copying and Pasting Pages

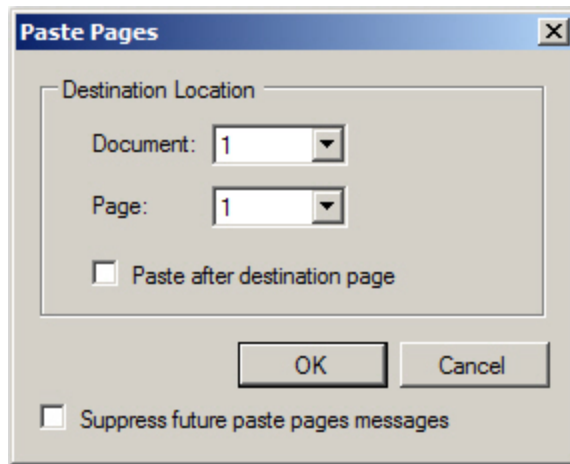
To copy and paste pages

- Navigate to the page in the document (or, select one or more pages in multiple display or Thumbnails).
- Click the **Copy** button. The **Copy Pages** dialog box appears.



Copy Pages

- If you selected pages within the same document, the first option, **Selected pages (current document)**, is selected. For this option, the selected pages are listed in the **Pages** field. If you selected pages across multiple documents, the second option, **Selected pages (across documents)**, would be selected. Ensure the appropriate option is selected, and then click **OK**.
- In the **Thumbnails** window or multiple display view, selected pages appear with the **Copy** icon in the upper right. Navigate to the page in the document where the pages will be pasted.
- Click **Paste**. The **Paste Pages** dialog box appears.




Paste Pages

6. Your selected document and page number appear in the **Paste Pages** dialog box. To change your selection, enter the appropriate document and page number.
7. By default, the pages will be pasted directly before your selected location. If you want them pasted after your destination page, select the option, **Paste after destination page**.



To prevent the confirmation message from appearing each time you perform this operation, select the Suppress future copy/paste pages messages option. To show the message once again, select the

PaperFlow Button  > **Preferences > System Messages**, and select the applicable property.

Deleting a Single Page

To delete a page:

1. In the **Thumbnails** section, select the page to delete.
2. Click **Delete** in the toolbar.
3. Click **Yes** to the confirmation message.

Deleting Pages

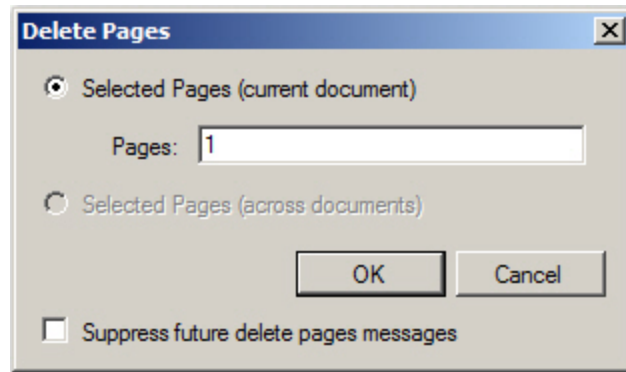
This operation deletes your specified page(s) in one document or across multiple documents. You can perform this operation in single display view (View > Organization > Single Display) or multiple display view (View > Organization > Multiple Display) as well as the Thumbnails window (View > Windows > Thumbnails).



You can also right-click on a page or within the multiple display view or Thumbnails window to delete pages

To delete pages

1. Select one or more pages in the same document or across multiple documents
2. Click the **Delete** button. The **Delete Pages** dialog box appears.

**Deleted Pages**

3. If you selected pages within the same document, the first option, **Selected pages (current document)**, is selected. For this option, the selected pages are listed in the Pages field. If you selected pages across multiple documents, the second option, **Selected Pages (across documents)**, would be selected. Ensure the appropriate option is selected, and then click **OK**.
4. To confirm the deletion, click **OK**.



To prevent the confirmation message from appearing each time you perform this operation, select the Suppress future delete pages messages option. To show the message once again, select the

PaperFlow button  > **Preferences > System Messages**, and select the applicable property.

Inverting Page Polarity

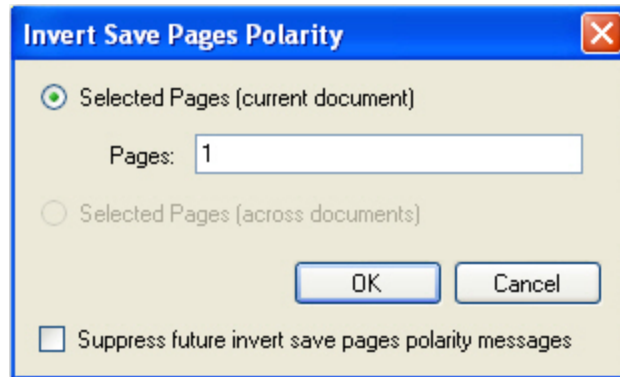
Inverting the page polarity reverses the black text on white background to white text on black background (or vice versa). When you are in single-display view, you can click **Invert** to run this operation.

Inverting and Saving Page Polarity

Inverting the page polarity reverses the black text on white background to white text on black background (or vice versa). This operation saves the inverted pages prior to batch submittal.

To invert and save page polarity on one or multiple pages

1. Navigate to the appropriate page.
2. Click the **Invert** drop-down list, and then select the **Invert Save Pages Polarity** option. The Invert Save Pages Polarity dialog box appears.



Invert and Save Pages Polarity

3. If you selected pages within the same document, the first option, **Selected pages (current document)**, will be selected. For this option, the selected pages are listed in the **Pages** field. If you selected pages across multiple documents, the second option, **Selected pages (across documents)**, is selected. Ensure the appropriate option is selected.
4. To specify a certain page, page range, or combination thereof, enter the page numbers in the **Pages** field. For example, you can enter "2, 4-7."
5. Click **OK**.



To prevent the confirmation message from appearing each time you perform this operation, select the Suppress future invert messages option. To show the message once again, select the **PaperFlow Button > Preferences > System Messages**, and select the applicable property.

Rotating and Image 90° Clockwise

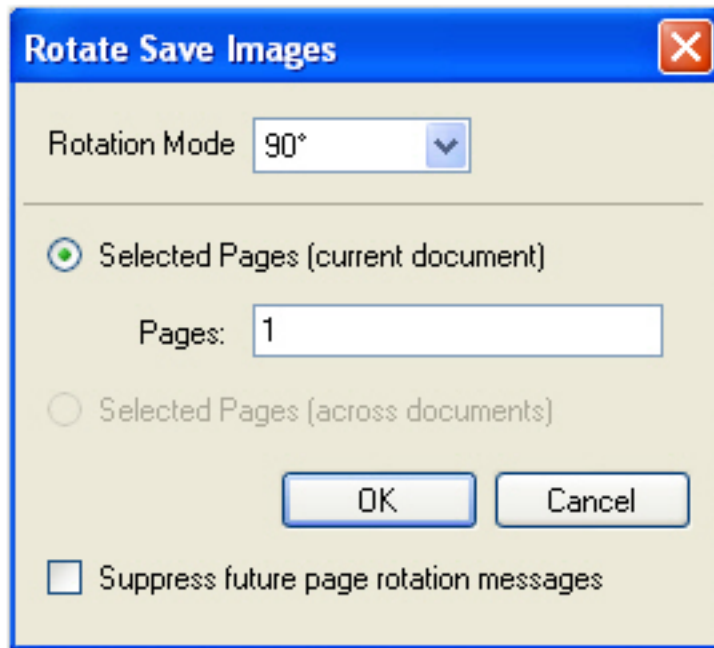
To rotate the image 90 degrees clockwise, click **Rotate**.

Rotating and Saving Pages

You can rotate one or multiple images in one document or across multiple documents and save them. You can perform this operation in the Thumbnails window, single display view (View page > Single Display) or multiple display view (**View Page > Multiple Display**).

To rotate and save one or multiple images

1. Select one or more pages.
2. Click **Rotate Save Images**. The **Rotate Save Images** dialog appears.



Rotate Save Images

3. From the **Rotation Mode** drop-down list, select the angle (90, 180, 270).
4. If you selected pages within the same document, the first option, **Selected pages (current document)**, will be selected. For this option, the selected pages are listed in the **Pages** field. If you selected pages across multiple documents, the second option, **Selected pages (across documents)**, is selected. Ensure the appropriate option is selected.
5. To specify a certain page, page range, or combination thereof, enter the page numbers in the **Pages** field. For example, you can enter "2, 4-7".
6. Click **OK**.

Tip: To prevent the confirmation message from appearing each time you perform this operation, select the Suppress future page rotation messages option. To show the message once again, select the **PaperFlow Button > Preferences > System Messages**, and select the applicable property.

Resetting Pages

If you have rotated or inverted a page, you can reset the page to its original view. To reset the image to its original view, click **Reset**.

Saving Pages

If you rotate a page or invert its polarity, this command allows you to save its new appearance.

To re-save the page


1. After you change the page rotation or polarity, click **Save**.
2. Click **OK** to the confirmation prompt.

Miscellaneous Operations

Miscellaneous operations include Document Match and Merge, Batch Match and Merge, and Execute Custom Code operations that you can execute in the Edit page.

Execute Custom Code

This operation is available if you have configured a custom operation in the **Edit** page's **Advanced Configuration**. For example, an operation can validate your indexing entries against an external database, or your indexing entries can update an external database.

Click the **Execute Custom Code**  icon to run a custom code operation that has been configured.

Document Match and Merge

If the Document Match and Merge command is executed, your indexing entries will be combined with entries found in the specified database (configured in the **Edit page > Advanced Configuration > Custom Code** menu). For example, you enter one required index value, a social security number, for an insurance invoice. You execute the **Doc Match and Merge** command, and the remaining two index fields, First Name and Last Name, are automatically filled in.

If you are unsure of the exact index value while hand-key indexing, you can insert wildcard characters to perform a partial search against the database. For example, you can insert the percent sign (%) to specify any number of unknown characters to search for in a SQL, Sybase, or Oracle database; or, you can insert the asterisk (*) to specify any number of unknown characters to search for within a Microsoft Access database. For information on specific wildcard characters, refer to the documentation for the respective database.

Note: See the "Match and Merge Wizard" on page 193 topic for information on configuring this operation.

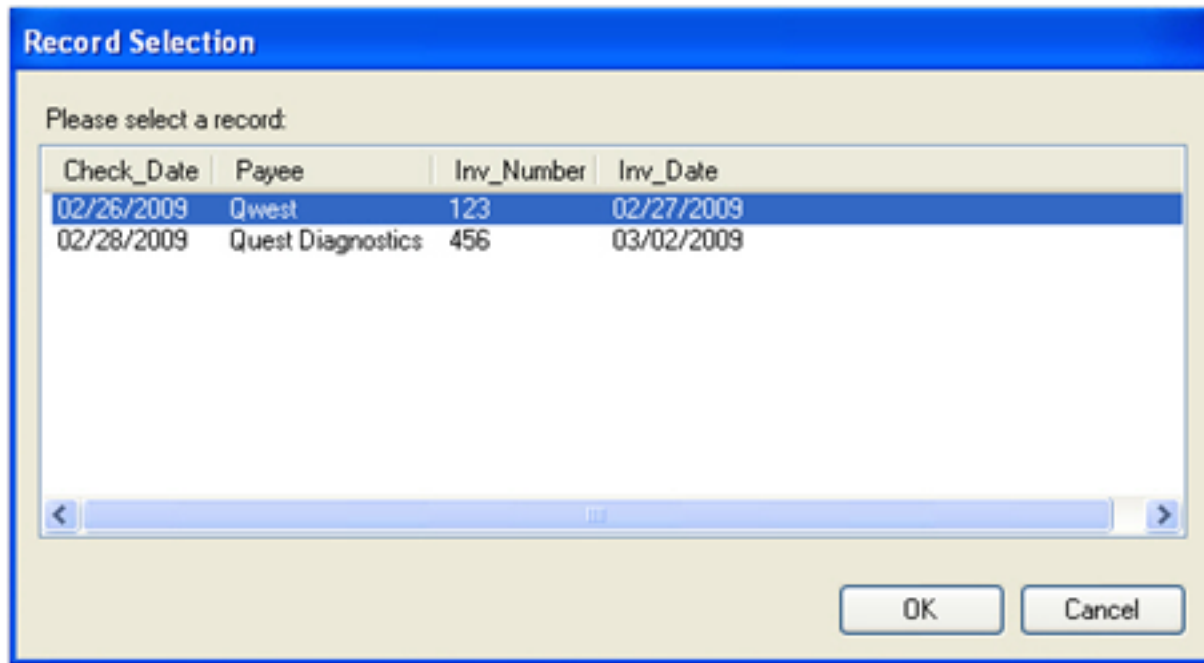
To match and merge your document values

1. Enter the required index values in the Indexing window.
2. In the **Edit** page, click **Doc Match and Merge**. The entries found in the database populate the remaining index fields.

Note: A message will appear if no matches were found.

3. If more than one entry is found, you will be presented with a list of records in the **Record Selection** dialog. Highlight the record and click **OK**.

Note: This is only true if "Enabled Detail Sets" is disabled.



Record Selection

Note: Click a column header to sort the records in ascending or descending order, and the sort order will be maintained for the duration of your logon session (i.e., the records return to their original sort order after you close the application).

- If you do not see the correct record, click **Cancel**.

Batch Match and Merge

If the **Batch Match and Merge** command is executed, your indexing entries will be combined with entries found in the specified database (configured in the **Edit page > Advanced Job Settings > Custom Code** menu). For example, you enter one required index value, a social security number, for an insurance invoice. You execute the Batch Match and Merge command, and the remaining two index fields, First Name and Last Name, are automatically filled in.

If you are unsure of the exact index value while hand-key indexing, you can insert wildcard characters to perform a partial search against the database. For example, you can insert the percent sign (%) to specify any number of unknown characters to search for in a SQL, Sybase, or Oracle database; or, you can insert the asterisk (*) to specify any number of unknown characters to search for within a Microsoft Access database. For information on specific wildcard characters, refer to the documentation for the respective database.

Note: See the Match and Merge Wizard instructions for information on configuring this operation.

To match and merge your batch:

1. Enter the required index values in the Indexing window for each document in the batch.
2. In the **Edit** page, click **Batch Match and Merge**. The entries found in the database populate the remaining index fields.

Note: A message will appear if no matches are found.

- If "Enable Detail Sets" was enabled, all records are populated automatically.

Name	Value
Check Date*	2007-05-01
Check Number*	12335
Payee*	QWEST
Invoice Date*	2007-06-01
Invoice Number*	1234
Invoice D	
Invoice Num	

Index Details

Browse Batch

Scanner: Stopped Doc 1 of 6

Batch Match without Detail Sets

- If "Enable Detail Sets" was disabled, only the first result is populated.

Name	Value
Check Date*	2007-05-01
Check Number*	12335
Payee*	QWEST
Invoice Date*	2007-06-01
Invoice Number*	1234
Invoice D	
Invoice Num	

Index: Details

Browse Batch

Scanner: Stopped Doc 1 of 6

Batch Merge with Detail Sets

Advanced Configuration

In the Edit page, job configuration settings contain properties for various tasks that are completed automatically in PaperFlow. During job configuration, you can assign automatic document break and page rotation settings. In addition, you can apply settings to limit the number of pages comprising each document, and you can automatically delete blank pages that are scanned in the application.

For example, document breaks can be inserted automatically based on page count, file size, barcode content, and OCR text. Additionally, you can configure custom code events that can automatically execute during batch processing.

To view job settings, select **Advanced Configuration** in the **Job Settings** toolbar group.



Job Configuration

General

This read-only field displays the name of the job.

Auto Document Break

While scanning documents, you can determine where one document ends and the next document begins using the Auto-Document Break properties. Although you can separate documents manually, you can select from options that are described below.

To assign the auto-document break settings

1. In the **Job Configuration** window, expand the **Auto-Document Break** menu. The **Auto-Document Break** settings appear.

Job Configuration

▶ General

▼ Auto-Document Break

None

Blank Page File Size (KB):

Number Page Count:

Barcode [Add Zones](#)

OCR [Edit Zones](#)

Delete Break Page (Blank Page/Barcode/OCR Only)

▶ Auto Page Rotation

▶ Miscellaneous

▶ Merge Like Documents

▶ Custom Code

Auto-Document Break

2. Select an option in the drop-down list found in the right column of the **Mode** field:
 - **None:** This is the default auto-document break type. When set to **None**, the system will expect you to manually separate new documents. No options are available for this setting.
 - **Blank Page:** To automatically insert document breaks based on the file size of the image, do the following:
 - a. Select **Blank Page**.
 - b. Enter the size (in Kilobytes) of images to be considered blank. You can enter the file size in whole numbers with up to two decimal places.
 - c. **Delete Break Page (Blank Page/Barcode/OCR Only)** - Check this box to have the break paged deleted after the job has been processed.

Note: An error will appear if both the Auto-Document Break and Minimum Page Size Detection properties are enabled.

- **Number Page:** To assign a fixed number of pages per document, do the following:
 - a. Select **Number Pager Count**.
 - b. Enter the number of pages that PaperFlow will scan before starting a new document.
 - c. **Delete Break Page (Blank Page/Barcode/OCR Only)** - Check this box to have the break paged deleted after the job has been processed.

Barcode Zones - To select the **Barcode** mode, click the **Add Zones** link to define the barcode zone that will automatically break documents. See the [Barcode Zone Configuration](#) topic for more information on specific settings.

OCR Zones - To select the **OCR** mode, click the **Add Zones** link to define the OCR zone that will automatically break documents. See the [OCR Zone Configuration](#) topic for more information on specific settings.

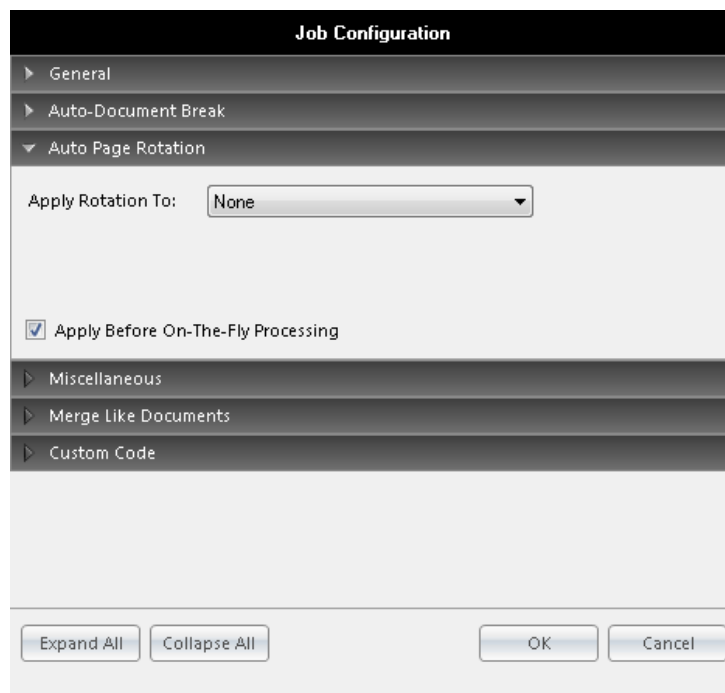
Delete Break Page (Barcode/OCR Only) - This property is applicable when you define Auto-Document Breaks with barcode or OCR zones. When enabled, the break page will be deleted when all defined barcode or OCR zones are read successfully.

Auto Page Rotation

The Auto Page Rotation setting allows you to configure how pages are rotated as images are scanned in the application.

To assign the page rotation settings

1. In the Job Configuration window, expand the **Auto Page Rotation** menu. The **Auto Page Rotation** settings appear.



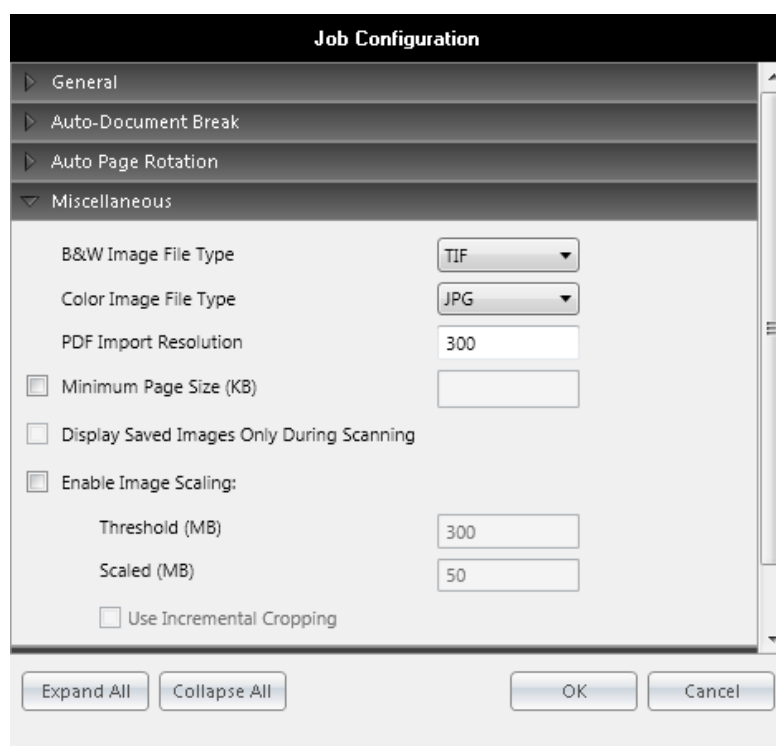
Auto Page Rotation

2. Select the page rotation setting from the **Apply Rotation To** drop down menu.
 - **None** disables the automatic page rotation feature.
 - **All Pages** automatically rotates all pages in a document by the specified rotation value as the documents are scanned.

- **Even Pages** automatically rotates only the even numbered pages in a document by the specified rotation value as the documents are scanned.
 - **Odd Pages** automatically rotates only the odd numbered pages in a document by the specified rotation value as the documents are scanned.
 - **Even Pages/Odd Pages** automatically rotates the odd and even numbered pages in a document by the specified rotation values as the documents are scanned. Even pages and odd pages can be assigned different rotation values.
 - **First Page Only** automatically rotates the first page of a document by the specified rotation value as the documents are scanned.
 - **All Pages Except First** automatically rotates all pages except the first page of a document by the specified rotation value as the documents are scanned.
 - **First Page Only/All Page Except First** automatically rotates the first page of a document by the specified rotation value as the documents are scanned. The remaining pages can be assigned a different rotation value.
3. Select the rotation value from the **All Pages** (or the applicable selection will appear) drop-down list. You can select from 90°, 180°, or 270°.
 4. If you are applying on-the-fly processing (for barcode, IP, or OCR zones) on images and you want the auto-rotation settings to be completed before you apply on-the-fly processing, select the option, **Apply Before On-the-Fly Processing**. Otherwise, images will be rotated after on-the-fly processing has been completed.

Miscellaneous

Miscellaneous settings include Color Image File Type, PDF Import Resolution, Minimum Page Size, Display Saved Images Only During Scanning, and Image Scaling.



Miscellaneous Job Settings

B&W Image File Type - You can specify the file type when storing scanned black and white images. Click the B&W Image File Type drop-down menu in the right column to make the selection. If you change this property after images have already been scanned into the batch, the file type will change for only those images subsequently scanned into the batch. For example, you change the B&W Image File Type property from .tif to .png after scanning 10 out of 20 images in the batch. Images 1-10 will be .tif file types; images 11-20 will be .png file types.

- TIF images are compressed using Group 4 compression which treats an image as a series of horizontal black strips on a white page.
- PNG files are compressed, so the file size is smaller. However, the applied compression is exactly reversible, so the image is recovered exactly.

Color Image File Type - You can specify the file type when storing scanned images that are not black and white. Click the Color Image File Type drop-down menu in the right column to make the selection. If you change this property after images have already been scanned into the batch, the file type will change for only those images subsequently scanned into the batch. For example, you change the Color Image File Type property from .bmp to .jpg after scanning 10 out of 20 images in the batch. Images 1-10 will be .bmp file types; images 11-20 will be .jpg file types.

- JPG images are compressed, so they contain less data and smaller file sizes than other image types.
- PNG files are compressed, so the file size is smaller. However, the applied compression is exactly reversible, so the image is recovered exactly.
- BMP files are not compressed and can be large. These files contain pixels and can degrade when you increase resolution.

PDF Import Resolution - You can specify the resolution of PDFs imported into the job. The default setting is 300 DPI.

Minimum Page Size - Blank pages can be scanned accidentally or as the blank side of a duplex page. The Minimum Page Size Detection setting allows you to delete blank pages as they are scanned. In the Minimum Page Size field, enter the minimum page size detection (in kilobytes) to be deleted. You can enter the size in whole numbers with up to two decimal places.

Note: An error will appear if both the Auto Document Break and Minimum Page Size Detection properties are enabled.

Display Saved Images Only During Scanning - When this property is enabled, **PaperFlow** only displays the images that are saved (in the manner that they are being saved). For example, if images are rotated as they are scanned, only the correct rotation orientation will display. If you enable this setting, and you have specified a minimum page size detection, blank pages will not display. If you do not enable this setting, all images will display, including blank images.

Enable Image Scaling- Select this property to reduce the file size of images imported into the job and thereby reduce memory usage. In the **Threshold (MB)** box, type the maximum file size (in Megabytes) allowed for an image. In the **Scaled (MB)** box, type the file size (in Megabytes) to which you want to reduce any image file that is equal to, or greater than the maximum file size you specified.

- **Use Incremental Cropping** - Select this option to break up all scaled images (images larger than the **Threshold (MB)** value) into segments that are loaded individually and then reassembled into a resultant image. This option is useful if you are importing unusually large images and experiencing memory issues.

Merge Like Documents

The Merge Like Documents job setting merges pages from multiple documents with the same index values into a single document. Documents that have not been indexed are not included in the merge process. The Merge Like Documents operation is performed on all documents in the batch.

To configure the Merge Like Documents setting

1. Expand the **Merge Like Documents** menu. The **Merge Like Documents** settings appear.
2. You can determine the page order of the merged document. Select **Merge in Reverse Direction** to place the last page at the beginning of the resulting document. If all pages should appear in the order in which they are merged, do not select this option.
3. All index values defined for the job appear in the **Available** list. Highlight the index values to be included in the Merge Like Documents operation, and click the right arrow. Your selected index values will appear in the **Selected** list.
 - Or, choose **Select All**, and then click the right arrow.
 - To remove a selected index value, highlight the index value in the **Selected** list, and then click the left arrow.
 - Or, choose **Select All** to remove all index values from the **Selected** list, and then click the left arrow.
4. By default, blank index values are not included in the merged document. If blank index values should be included in the merged document, select the **Allow Blank** check box for the appropriate index value. For example, if you select the **Allow Blank** check box for the **Invoice Number** index value, all documents

must contain blank index values in order to be merged into one document. If at least one Invoice Number index value is defined and the remaining index values are blank (or vice versa), the documents will not be merged.

Custom Code Event Configuration

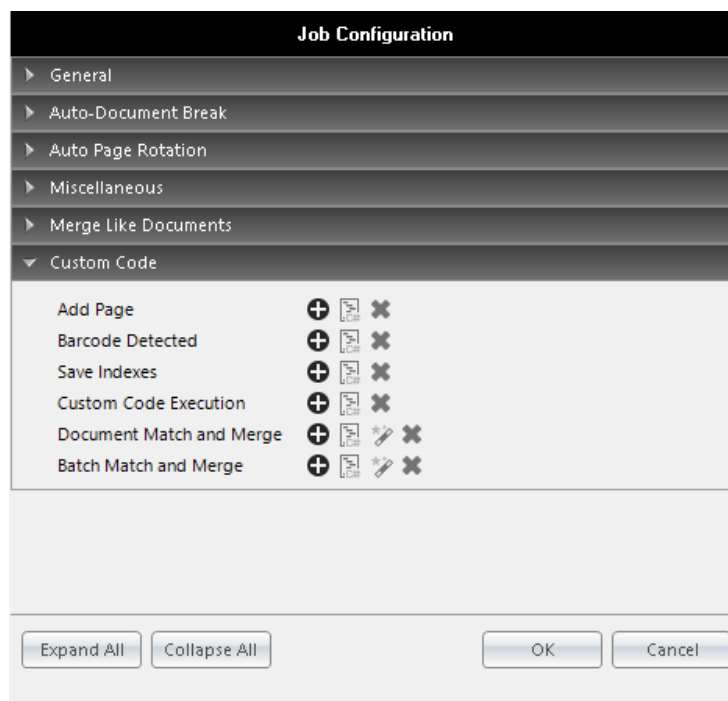
Custom code is automatically executed when certain events occur in PaperFlow. These events include the following:

- **Add Page** - each time a page is added to the batch
- **Barcode Detected** - each time a barcode is successfully read
- **Save Indexes** - when index values are being saved to the batch
- **Custom Code Execution** - when a user clicks the "Custom Code" button
- **Document Match and Merge** - when a user clicks the "Doc Match and Merge" button
- **Batch Match and Merge** - when a user clicks the "Batch Match and Merge" button

The remaining events are configured in the **Job Configuration** window, accessed in the **Edit page > Job Settings > Advanced Configuration > Custom Code** menu. After you navigate to the appropriate screen, follow these steps to generate custom code:

To configure the code for the remaining events

1. Expand the **Custom Code** menu. The **Custom Code** events appear.



Custom Code

- To configure one of the custom code events described above, click the **Add**. For the **Add Page**, **Save Indexes**, or **Custom Code Execution** events, the **Select Custom Code Generator** wizard opens, where you can configure a basic script generator.

Add Page - Add Page executes custom code just before images are appended to the batch, including rotation or barcode indexing. When the script is enabled for this option, it will be executed for all images scanned in the application or when you import a batch. This script is not executed if you executed the Import Images operation.

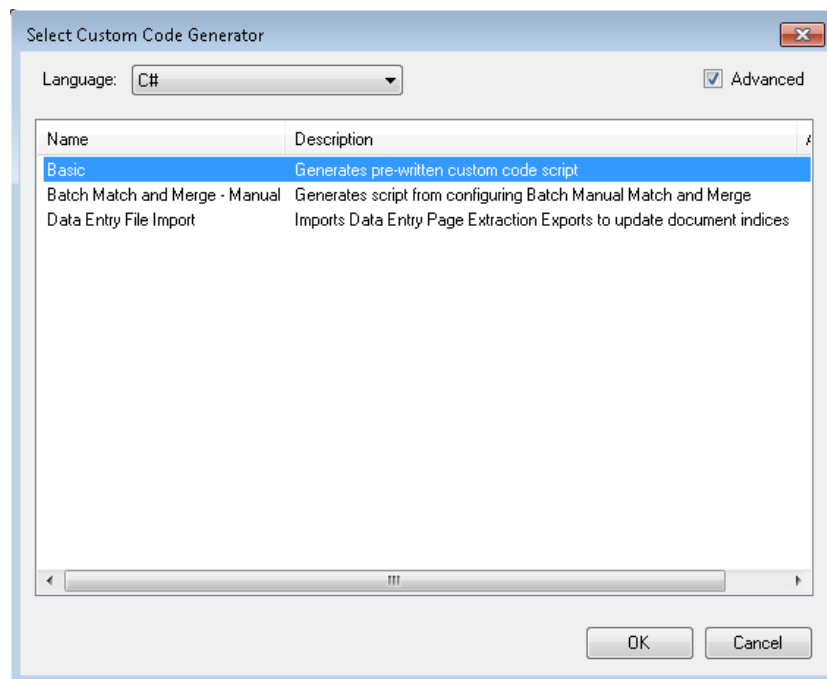
Barcode Detected - The Barcode Detected event executes custom code after a barcode's value, location, size, orientation, and type have been successfully read during scanning. When a script is enabled for this option, it will be executed every time a barcode is successfully read during scanning (multiple barcodes can be read per page). This event can also be used to apply a page-level custom tag. The script is not executed if a barcode cannot be successfully read.

Save Indexes - Save Indexes executes prior to the operator saving the index values in the Indexing window.

Custom Code Execution - Custom Code Execution executes when the operator clicks the Custom Code button in the [Edit page](#).

Document Match and Merge - Performs the merge process at the document level. Document Match and Merge executes when you click the Doc Match and Merge button in the [Edit page](#). See the [Doc Match and Merge Wizard](#) topic for specific configuration information.

Batch Match and Merge - Batch Match and Merge performs the merge process at the batch level. It executes when you click the Batch Match and Merge button in the [Edit page](#). See the [Batch Match and Merge Wizard](#) section for specific configuration information.



Custom Code Generator Wizard

- Select either the **C#** or **VisualBasic** programming language from the drop-down list.

4. Select the **Basic** generator, and click **OK**. The [Script Editor](#) opens, where you can edit the script.
5. Click **OK** in the Script Editor to save the script.

Data Entry File Import Script for PaperFlow .NET

The Data Entry Page Extraction script for PaperFlow (.NET) allows customers to export specific documents and images from a batch and to send them to data entry facilities. The data entry facilities can then create a text file that contains the necessary Index Field values that will be used to automatically populate those values directly into the batch. The text file should contain the following format:

```
00000000|ONE|TWO|THREE|00000001.tif
```

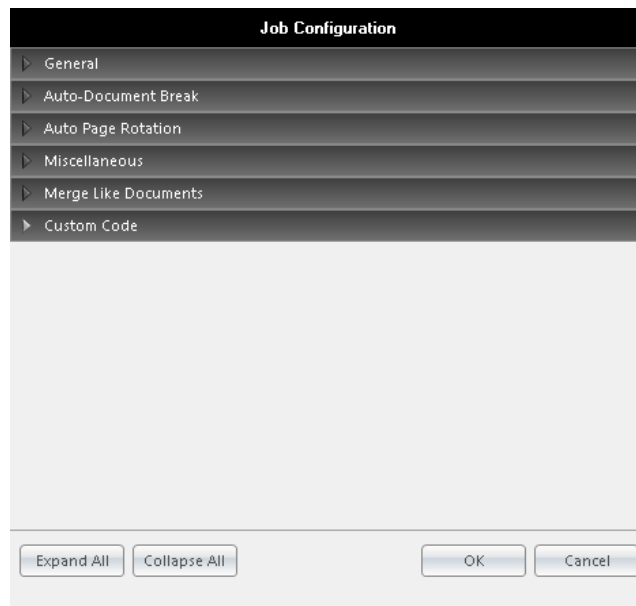
```
00000001|TWO| |FOUR|00000002.tif
```

The numbers 00000000 and 00000001 represent the document numbers. The fields ONE, TWO, THREE, and FOUR, represent the Index Field values to be populated. The references 00000001.tif, and 00000002.tif indicate the names of the images that are included in the import. This import script should only be used after running the Data Entry Page Extraction Export Script.

Note: It is important to list the Index Field values in this script as they will be populated in the batch. The import script will read those values based on position. In the above examples, the first document would populate the first three fields with the values specified. For the second document, only the first and third Index Field values would be populated. It is important to include the Index Field value separator (|) so that the second Index Field value is left blank (or pre-populated depending on how the job was configured).

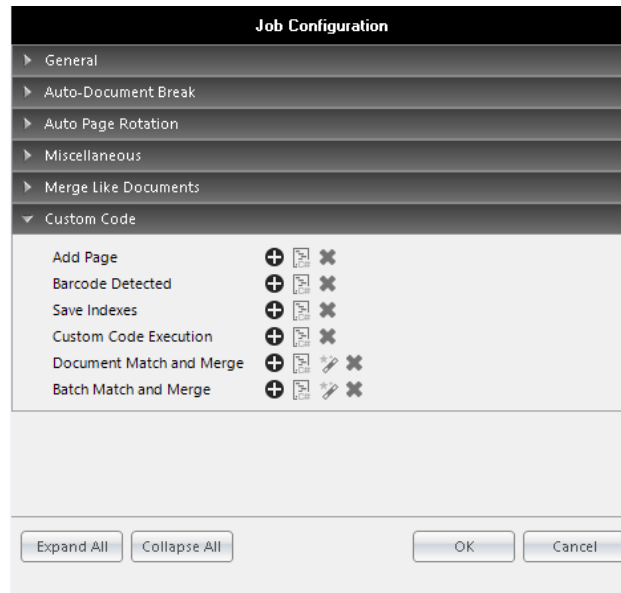
Configuring the Data Entry File Import Script for PaperFlow .NET

1. Click **Advanced Configuration** located in the **Job Settings** section of the toolbar.



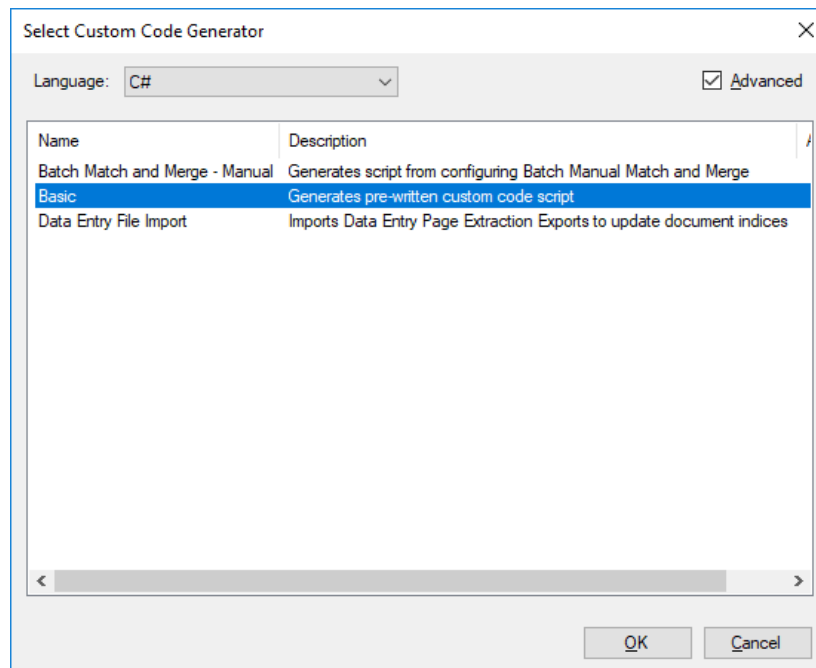
Job Configuration

- From the **Job Configuration** dialog, click the arrow to expand the **Custom Code** option.



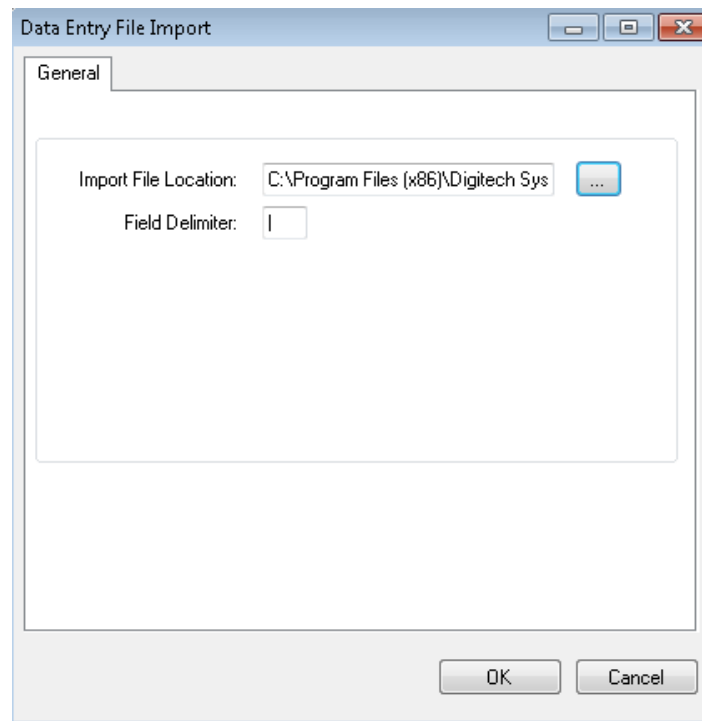
Job Configuration – Custom Code

- Click **Add** next to the **Custom Code Execution** option.



Select Custom Code Generator

- Select the **Data Entry File Import** script, then click the **OK** button.



Data Entry File Import

5. Click the **Import File Location** button and choose the file that contains the Index Field values. The **Field Delimiter** option should be configured to use the same delimiter that was used when the Data Entry file was created (by default this field is configured to use the pipe (|) character). Click **OK** once complete.

```

132         //try as text
133         if (!this.Batch.TrySetIndexValue(DocID, FieldName, FieldValue, false, out error))
134             throw new Exception("Unable to set index value for field: " + FieldName + " FieldValu
135         Environment.NewLine + Environment.NewLine + err.Message);
136     }
137 }
138 return true;
139 }
140 /// <summary>
141 /// Determines Field Type
142 /// </summary>
143 /// <param name="fieldName"></param>
144 /// <returns></returns>
145 protected string GetFieldType(string fieldName) {
146     PVIndexMetadata[] metadata;
147     PVError error;
148
149     if (!Batch.TryGetIndexMetadata(out metadata, out error))
150         throw (new Exception(error.Message));
151     foreach (PVIndexMetadata m in metadata) {
152         if (m.FieldName == fieldName)
153             return m.FieldType;
154     }
155     return "undefined";
156 }
157 #endregion
158

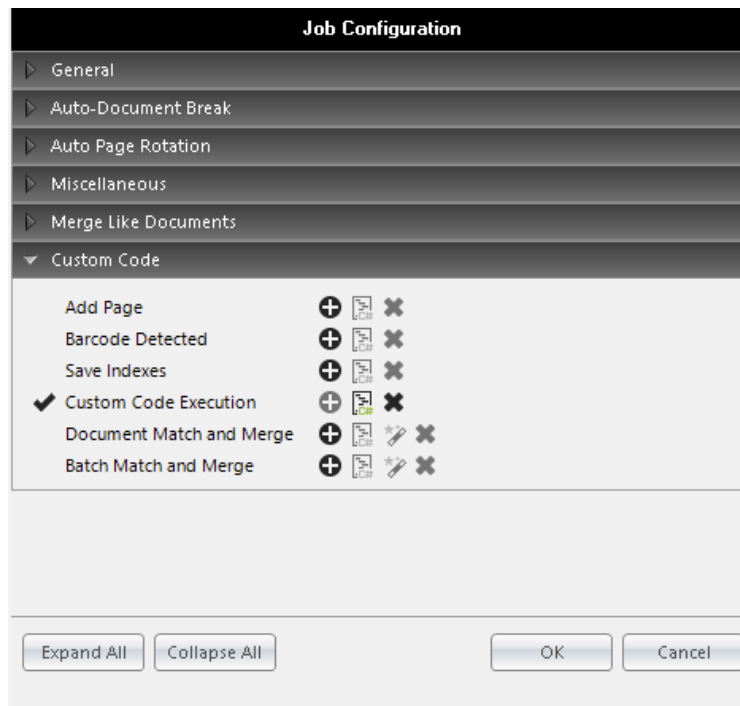
```

Ln 1 Col 1

OK Cancel

Script Editor

- From the **Script Editor** window, click the **OK** button (without making any changes) to save and compile the import script.

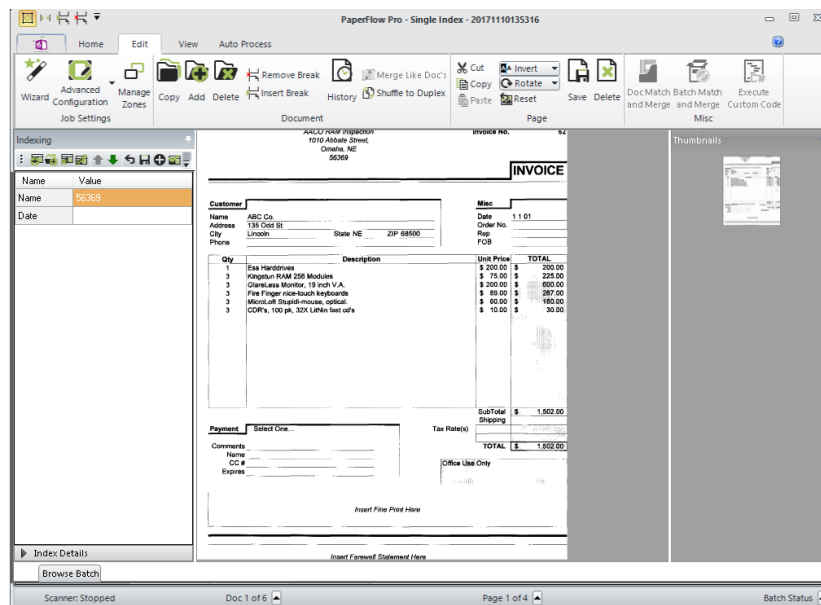


Job Configuration – Custom Code Execution (enabled)

- The **Custom Code Execution** option is now active and enabled. Click **OK** to close the **Job Configuration** dialog and return to the batch.

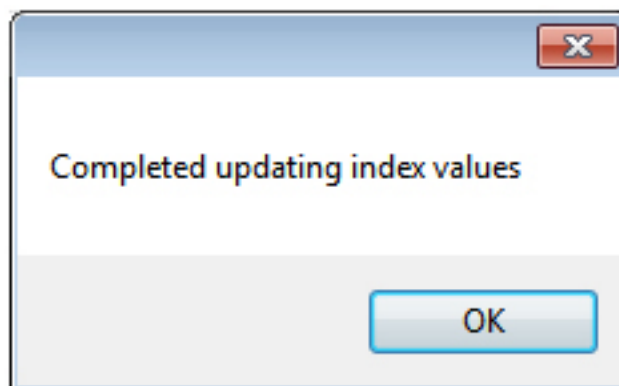
Execute the Data Entry File Import script

The following steps will guide you in executing the Data Entry File Import script to automatically import and populate the Index Field values for this batch.



Edit Tab - Misc Section

1. From the **Edit** tab, click **Execute Custom Code**, located in the *Misc* section of the toolbar.



Import Status

2. The Import script is executed, the applicable Index Field values are automatically populated and the user is notified that the operation is complete. Click **OK** to dismiss the prompt and return to the batch.

Custom Code Configuration

PaperFlow's custom code engine enables you to write C# or VB.NET code that users can execute at any time. You can write custom code to validate/manipulate/export data, access a database, interface with an external line-of-business application, or implement other desired functionality. Additionally, Digitech Systems provides a .NET Application Programming Interface (API) that you can use for read/write access to batch metadata, documents, images, output OCR data, and index values.

You can insert your code in two areas: (1) events that are automatically fired by the application and (2) exports that move captured images and data out of the application. For more information on configuring code in these two areas, see the [Job Configuration](#) and [Export](#) topics.

Custom Code Event Arguments

Each custom code event exposes an argument parameter that is specific to the given event type. Within your code, you can access these arguments to read event-specific data and to configure settings. For example, your code can change a property that determines the action that is triggered in PaperFlow after the event. The event-specific arguments are listed below.

Note: The following classes are derived from the .NET System.Data.DataSet class and support all DataSet properties and functions. Additionally, DataSets are mapped to index values in the Operator Console's Index Manager.

Add Page Event - CustomCodeNewImageEventArgs

The **Add Page** event uses the **CCustomCodeNewImageEventArgs** class to pass every scanned image to custom code. Use of this argument is illustrated in the `InspectBeforeAddPage` sample script:

```
CCustomCodeNewImageEventArgs args = base.Parameter as
CCustomCodeNewImageEventArgs;
```

1. **Image.Attributes** (hashtable containing the following image attributes):
 - a. **PageSide**: string (indicates the side of the page as "Front" or "Back")
 - b. **DriverName**: string (indicates the name of the scanner driver)
2. **PageTags: TagInfo []**

This property can be used to specify one or more page tags to be added after the page has been appended to the batch. Tags added to a break page (based on job configuration settings to delete break pages) will be ignored.

Barcode Detected Event - BarcodeReadEventArgs

The Barcode Detected event uses the BarcodeReadEventArgs class to pass every barcode's data (from each barcode zone) to the custom code. This event is triggered each time a barcode is successfully detected during scanning (multiple barcodes can be detected per page).

The following properties are located within the custom code:

1. **BarcodeItem Properties**

These properties contain all barcode data, including barcode value, location, size, orientation, and barcode type.

2. **PageTags: TagInfo []**

This property can be used to specify one or more page tags to be added after the page has been appended to the batch. Tags added to a break page (based on job configuration settings to delete break pages) will be ignored.

Custom Code Execution Event - ManualCustomCodeEventArgs

The Custom Code Execution event uses the ManualCustomCodeEventArgs class to pass index values to the manual custom code event. This event is triggered when the user triggers the Custom Code operation.

```
ManualCustomCodeEventArgs args = base.Parameter as
ManualCustomCodeEventArgs;
```

Index Populated Event - IndexPopulateEventArgs

The Index Populated event uses the IndexPopulateEventArgs class to pass index values to the custom code. This event is triggered when an index value is populated.

```
IndexPopulateEventArgs args = base.Parameter as IndexPopulateEventArgs
```

Index Validate Event - IndexValidateEventArgs

The Index Validate event uses the IndexValidateEventArgs class to pass index values to the custom code. This event is triggered once the user proceeds or tabs to the next index field in the Indexing window.

```
IndexValidateEventArgs args = base.Parameter as IndexValidateEventArgs;
```

OCR Statistics Event - OCRFullTextPageProcessedEventArgs

The OCR Statistics custom code event uses the OCRFullTextPageProcessedEventArgs class to pass Open Text full-text data from each page (per selected output format) to the custom code. For each output type, this

event is triggered once a page has been converted to PDF, PaperVision Enterprise, PaperFlow, or Text full-text output.

The following properties are located within the custom code:

1. **DocumentId:** string
2. **PageId:** Guid
3. **PageIndex:** int32
4. **OCRWords:** int32

The **OCRWords** property contains the following variables:

```
internal OCRCharacter[] characters = new OCRCharacter[] { };
    internal Int32 line = 0;
    internal System.Drawing.Point location = new System.Drawing.Point();
    internal System.Drawing.Size size = new
```

The **OCRCharacter** variable contains the following properties:

```
public System.Drawing.Point Location
{
    get
    {
        return location;
    }
}
public System.Drawing.Size Size
{
    get
    {
        return size;
    }
}
public Byte Confidence
{
    get
    {
        return confidence;
    }
}
```

```

    public Char Code
    {
        get
        {
            return code;
        }
    }
    public bool Rejected
    {
        get
        {
            return rejected;
        }
    }
    public Char[] Alternatives
    {
        get
        {
            return alternatives;
        }
    }

```

5. RecognitionTime: int32 (milliseconds)
6. AdditionalValues: Hashtable
7. ConverterName: string

OCR Statistics Event - OCRIndexZoneProcessedEventArgs

The OCR Statistics custom code event uses the OCRIndexZoneProcessedEventArgs class to pass index values populated by Open Text OCR zones to the custom code. This event is triggered once the contents of an Open Text OCR zone populate an index value.

The following properties are located within the custom code:

1. DocumentId: string
2. PageId: Guid
3. PageIndex: int32
4. OCRWords: int32

The **OCRWords** property contains the following variables:

```
internal OCRCharacter[] characters = new OCRCharacter[] { };
```

```
internal Int32 line = 0;
internal System.Drawing.Point location = new System.Drawing.Point();
internal System.Drawing.Size size = new System.Drawing.Size();
```

The `OCRCharacter` variable contains the following properties:

```
public System.Drawing.Point Location
{
    get
    {
        return location;
    }
}
public System.Drawing.Size Size
{
    get
    {
        return size;
    }
}
public Byte Confidence
{
    get
    {
        return confidence;
    }
}
public Char Code
{
    get
    {
        return code;
    }
}
public bool Rejected
{
```

```

        get
        {
            return rejected;
        }
    }
    public Char[] Alternatives
    {
        get
        {
            return alternatives;
        }
    }
}

```

5. **RecognitionTime:** int32 (milliseconds)
6. **AdditionalValues:** Hashtable
7. **FieldName:** string

OCR Statistics Event - OCRMarkSenseZoneProcessedEventArgs

The OCR Statistics custom code event uses the OCRMarkSenseZoneProcessedEventArgs class to pass auto document break zone statistics to the custom code. This event is triggered when an Open Text OCR zone inserts an auto document break page between documents.

The following properties are located within the custom code:

1. **DocumentId:** string
2. **PageId:** Guid
3. **PageIndex:** int32
4. **OCRWords:** int32

The **OCRWords** property contains the following variables:

```

internal OCRCharacter[] characters = new OCRCharacter[] { };
internal Int32 line = 0;
internal System.Drawing.Point location = new System.Drawing.Point();
internal System.Drawing.Size size = new System.Drawing.Size();

```

The **OCRCharacter** variable contains the following properties:

```

public System.Drawing.Point Location
{
    get

```

```
        {
            return location;
        }
    }
    public System.Drawing.Size Size
    {
        get
        {
            return size;
        }
    }
    public Byte Confidence
    {
        get
        {
            return confidence;
        }
    }
    public Char Code
    {
        get
        {
            return code;
        }
    }
    public bool Rejected
    {
        get
        {
            return rejected;
        }
    }
    public Char[] Alternatives
    {
        get
```

```

        {
            return alternatives;
        }
    }

```

5. `RecognitionTime: int32 (milliseconds)`

6. `AdditionalValues: Hashtable`

Saving Indexes Event - `IndexSaveEventArgs`

The Saving Indexes event uses the `IndexSaveEventArgs` class to pass index values to custom code. The Saving Indexes event is triggered as index values are saved to the batch. This class contains the `BatchNavigation` enumeration property that determines which document opens immediately after indexes are saved.

```

IndexSaveEventArgs args = base.Parameter as IndexSaveEventArgs;

```

Note: By default, the Saving Indexes event proceeds to the next document.

Within your custom code, you can use the following constants to set the `BatchNavigation` enumeration property:

1. `None`: Remains on current document
2. `NextDoc`: Proceeds to next document
3. `PreviousDoc`: Returns to previous document
4. `LastDoc`: Proceeds to last document in batch
5. `FirstDoc`: Returns to first document in batch

For example, you can configure the `BatchNavigation` enumeration property to remain on the current document after index values are saved:

```

args.BatchNavigation = BatchNavigation.None;

```

User-Defined Custom Code Generators

If you would like to display your own customized custom code generators you must complete the following steps:

1. Build an assembly that contains a class implementing the `ICustomCodeGenerator` interface. This interface is located within `DSI.Capture.ScriptingLibrary.dll`.
2. Copy the generated assembly into the `\CCGenerators` folder where PaperFlow was installed.
3. Your custom code generator must implement the following interface:

```

public interface ICustomCodeGenerator
{
    /// <summary>
    /// Returns name of Generator

```

```

    /// </summary>
    /// <returns></returns>
    string GetName();
    /// <summary>
    /// Returns description of Generator
    /// </summary>
    /// <returns></returns>
    string GetDescription();
    /// <summary>
    /// Returns supported languages
    /// </summary>
    /// <returns></returns>
    Language[] GetSupportedLanguages();
    /// <summary>
    /// Generates the CustomCode object
    /// </summary>
    /// <param name="options"></param>
    /// <returns></returns>
    CustomCode GenerateCustomCode(CustomCodeGeneratorOptions options);
    /// <summary>
    /// Returns tags
    /// </summary>
    /// <returns></returns>
    CustomCodeGeneratorTags GetTags();
}

public sealed class CustomCodeGeneratorTags
{
    /// <summary>
    /// Is this an export?
    /// </summary>
    public bool IsExport = false;
    /// <summary>
    /// Is this automated?
    /// </summary>
    public bool IsAutomated = false;
}

```

```

    /// <summary>
    /// Is this manual?
    /// </summary>
    public bool IsManual = false;
    /// <summary>
    /// Is there a UI for this?
    /// </summary>
    public bool CanDesign = false;
}
public sealed class CustomCodeGeneratorOptions
{
    private IWin32Window parent = null;
    private Language language = Language.CSharp;
    private PVBatch batch = null;
    private ICustomCodeGenerator generator = null; //Optional generator
to be used (frmSelectGenerator will not be displayed)
    private object parameter = null; //Custom Code to be passed to
generator (optional). This can be used for Design

    /// <summary>
    /// Parent window
    /// </summary>
    public IWin32Window Parent
    {
        get
        {
            return parent;
        }
        set
        {
            parent = value;
        }
    }
    /// <summary>
    /// Language

```



```
    /// </summary>
    public Language Language
    {
        get
        {
            return language;
        }
        set
        {
            if (value == ScriptingLibrary.Language.Unknown)
                throw (new Exception("Property does not support
Language.Unknown!"));
            language = value;
        }
    }

    /// <summary>
    /// Batch
    /// </summary>
    public PVBatch Batch
    {
        get
        {
            return batch;
        }
        set
        {
            batch = value;
        }
    }

    /// <summary>
    /// Generator
    /// </summary>
    public ICustomCodeGenerator Generator
```

```

        {
            get
            {
                return generator;
            }
            set
            {
                generator = value;
            }
        }

    /// <summary>
    /// (Internal usage only)
    /// </summary>
    public object Parameter
    {
        get
        {
            return parameter;
        }
        set
        {
            parameter = value;
        }
    }
}

```

Digitech Systems' API

Digitech Systems' API is accessible from within the Script Editor. The API provides classes for reading/writing documents and indexes within the current batch. For more information on the Digitech Systems API, launch the **PVCaptureBatchAPI.chm** Help file that is found within the **Docs** directory where PaperFlow was installed. This help file provides Microsoft Developer's Network (MSDN)-style documentation on our DSI.Capture.API namespace, including code samples.

Custom code samples are found in the **Library\Samples** directory (as text or XML files), where PaperFlow was installed. You can cut and paste the code directly into the Script Editor for a Custom Code step. The following code samples are included:

- **AddPrefixValueToBatchDocumentIndexes** iterates through all documents comprising a batch and appends prefixes to index values.
- **CalltoCustomAssembly** demonstrates one way to call out to code in your own assembly
- **CopyIndexValues** duplicates an index value from a source document to one or more subsequent documents.
- **Data Group Import Utility** imports existing PaperFlow, and XML data groups into PaperFlow. To successfully run this tool, you must first create a job and batch in PaperFlow (.NET). This job must include the same index fields as the legacy data group.
- **DisplayBatchPageCount** displays the total number of pages in the batch (designed to be run from a manual custom code event).
- **ImportASCIIwithImages** imports images and index information from a number of other document imaging systems.

Note: Constants at the beginning of the script must be configured in order for the operator to execute the script successfully.

- **InspectBeforeAddPage** examines the physical dimensions of a scanned image and inserts a document break if the page is detected as an envelope.
- **MatchandMergeOnIndexValidate** executes custom code that will look up and populate index values when the operator enters a index value and tabs to the next field.
- **MultiPageTIFFConversion** divides a multi-page TIFF into separate images (one image per page).
- **OCRFullTextPageStatistics** records Open Text Full-Text OCR statistics per selected output. Statistics are recorded when the Open Text Full-Text OCR step processes a page and converts the page to the selected output(s).
- **OCRIndexZoneStatistics** records Open Text Zonal OCR statistics when an Open Text OCR zone populates an index value.
- **OCRMarkSenseZoneStatistics** records Open Text Zonal OCR statistics when an Open Text OCR zone inserts an auto document break page between documents.
- **SetScanDate** - automatically sets a scan date index value (document creation date) into the batch for every document. The document's creation date is the date/time the document entered the batch. The date/time value is stored in Universal Time Coordinated (UTC), also known as Greenwich Mean Time (GMT). For example, Denver, Colorado's UTC time at 2:00 PM on April 9, 2009 will display as "04/09/2009 20:00:00." To change the date/time value to your local time zone instead of UTC, change the code in line 46 to:

```
f(!this.Batch.TrySetIndexValue(id, "ScanDate",
documentCreatedDate.ToLocalTime(), true, out error))
```

NOTE: This script, as written, is designed to be executed manually, such as in the **Custom Code Execution** event (configured on the **Job Configuration** window). Using this script, as written, in any automated event could produce unintended results.

- **ValidateIndex** - provides an example of how to validate an index field value.

- **Data Group Import** - automatically imports existing PaperFlow (legacy) data groups into PaperFlow (.NET).

Batch Property

Within your custom code, you can access the Digitech Systems API via the Batch property. The Batch property is of the type **DSI.Capture.API.Batch** and represents the primary entry point for the Digitech Systems API.

For example, to insert a new document to a batch within your CallHandler method (C# in this case), you can type:

```
this.Batch.TryInsertDocument(/*see API documentation for
parameters*/)
```

Another approach would be to call out to your own assembly and pass the instance of the Batch object to your code (again, the instance is available as the "Batch" property inside the pre-written "Code" class.) This approach would allow you to use Visual Studio for coding. Then, at run time, you would need to ensure that your assembly is located in the same directory as the PaperFlow executables.

Additional API Functions

In addition to the API Functions documented in the **PVCaptureBatchAPI.chm** help file, the API functions described in this section can be used within your custom code.

Custom Code/Export Functions
<pre>protected string[] GetPageFiles(string documentID)</pre> <p>Returns path values for all images contained in a document (from all pages)</p>
<pre>protected Stream GetFileStream(PVFile file)</pre> <p>Returns the stream for a specified PVFile</p>
<pre>protected Stream[] GetDocumentStreams(string documentID)</pre> <p>Returns an array of streams for all files contained in a document (from all pages)</p>
<pre>protected Stream[] GetDocumentStreams(string documentID, string jobStepName, bool bitonal)</pre> <p>Returns streams for all files contained in a document (from all pages) based on job step name and bitonal option</p>
<pre>protected void CopyStreamToDisk(Stream stream, string path)</pre> <p>Copies content of a stream to disk</p>
<pre>public string[] CopyFilesToDisk(string documentID, string rootPath)</pre> <p>Copies all files from a document (from all pages) to a folder and returns an array for all image path values</p>
<pre>protected void SetPersistValue(string key, string value, string rootPath)</pre>

Custom Code/Export Functions	
	Copies all files from a document (from all pages) to a folder based on job step name and bitonal option
<code>protected string GetPersistValue(string key, string rootPath)</code>	Reads persisted value for a key
<code>protected string GetNextLockedPath(string root, Int32 maxExportSize, bool exclusive)</code>	Returns the next available path (path is locked before it is returned)
<code>protected string GetNextLockedPath(string root, Int32 maxExportSize)</code>	Returns the next available path (path is locked before it is returned)
<code>String GetNextLockedPath(string root, Int32 maxExportSize, ExcludePathDelegate excludeFunction, bool exclusive)</code>	Returns the next available path (path is locked before it is returned)
<code>protected void UnlockPath(string path)</code>	Deletes lock for a specified path
<code>void ClearRootPath(string path)</code>	Deletes all folders containing empty subfolders for all folders listed under 'path'
<code>protected void SetExportComplete(string path)</code>	Flags folder as complete by dropping export.complete file
<code>protected bool IsExportComplete(string path)</code>	Checks whether export folder is flagged as complete
<code>protected bool IsExported(string documentID)</code>	Checks whether document was previously exported
<code>protected bool SetExported(string documentID)</code>	Sets the document's exported status
<code>protected void DeleteDocument(string documentID)</code>	Deletes document after it has been exported
<code>protected void SetStatus(string status, Int32 percentage)</code>	Returns percentage of custom code that has been executed
<code>protected Int32 GetNonExportedDocumentCount()</code>	Returns number of non-exported documents

Custom Code/Export Functions

```

{
    Int32 count = 0;
    foreach (string id in GetDocumentIDs())
    {
        if (!IsExported(id))
            ++count;
    }
    return count;
}

```

Full-Text OCR Functions

protected string[] GetPageText (string filePath)

Returns text for each page

protected string[] GetOCRFiles (string documentID, string stepName, string converterCode)

Returns Full-Text OCR files that belong to a specific converter

string[] GetOCRFiles (string documentID, string stepName, string converterCode, string path)

Writes Full-Text OCR files belonging to a specific converter to directory 'path'

Important! The caller is responsible for post-processing clean-up if the files are not required.

Image Processing Functions

string ConvertImages(string[] sourceFiles, string destinationFile, ConvertFileType convertFileType)

Converts one or more images to a single destination image file and returns the actual path under which the file was saved

Int32 GetPageCount(string sourceFile)

Returns the number of pages found in a multi-page image

string GetPageImage(string sourceFile, Int32 pageIndex, string destinationFile, OutputFileType outputFileType)

Retrieves specific image referenced by a specific page index in a multi-page image

protected string[] GetPageFiles(string documentID)

Custom Code/Export Functions
Returns a path value for all images belonging to a document (from all pages)
bool IsMultipageFormat(ConvertFileType convertFileType) Determines if the passed file type supports multi-page format
PVBatch Helper Functions
Int32 GetBlankIndexCount() Returns the number of blank indices
string[] GetAvailableFields() Returns the set of fields that can be written to
string GetIndexValue(string fieldname) Returns the field value for the specified field name
void SetIndexValue(string fieldname, string fieldValue) Assigns a field value for a specified field name Note: This function cannot be used with a detail set field; otherwise, an exception will result. Also, when called from within an Index Validate event, this function can only be used for the target index.
string[] GetDetailSetFields() Returns the field names of the detail set in Match and Merge
void AssignDetailSet(DataRow row) Assigns a detail set field in automated match and merge using a single passed DataRow
void AssignDetailSet(DataSet dataset) Assigns detail set values from a DataSet (returned from the database) - used in match and merge
void AssignDetailSet(DataRow row, DataSet indices) Assigns a detail set from a passed DataRow value (manual match and merge) - detail set is not written to the batch; instead, it is written to the indices DataSet which passed from the UI
void AssignDetailSet(DataSet dataset, DataSet indices) Assigns detail set values to passed indices (manual match and merge)
void UpdateCurrentIndex(DataRow row) Updates the current index value from the passed DataRow - row is retrieved from a dataset populated by the SQL database (match and merge)
Bool IsFieldDetailSet(string fieldName)

Custom Code/Export Functions
Checks whether the specified field is a detail set field
PVIndexMetadata GetIndexMetadata(string fieldName) Returns metadata for an index
bool IsFieldEmpty(string fieldName) Checks whether a field is empty
string GetMappedColumn(string fieldName) Returns the mapped column to a specific field name (match and merge)
DataTable GetMapping() Returns a mapping table between indices and table columns (match and merge)
string GetWhereClause() Generates a WHERE clause to be used in the SQL query (match and merge)
string GetWhereClause(DataRow row) Generates a WHERE clause to be used in the SQL query that uses the values in DataRow to add conditions (match and merge)
string[] GetDocumentIDs() Returns list of document id values
PVPage[] GetPages(string documentID) Returns a list of pages for a specific document
string GetPath(PVFile file) Returns a path for a specified file
PVIndex[] GetIndices(string documentID) Returns a list of indices for a specific document
PVDetailSet[] GetDetailSets(string documentID) Returns the DetailSet values for a specific document
PVFile GetPreferredFile(PVPage, string jobStepName, bool bitonal) Returns the file that matches the bitonal value; otherwise, the first file in the array is returned
string GetExtension(string imagePath) Returns the extension of an image path

Enumerations

The enumerations described in this section can be used within your custom code.

public enum ConvertFileType

This enumeration is used by the ConvertImages() function and specifies the conversion types that will be applied to one or more images.

```

{
    /// <summary>
    /// No file conversion (returns image input path and appends an
    extension if not passed in destination File variable)
    /// </summary>
    CVT_NO_CONVERSION,
    /// <summary>
    /// TIFF with Group IV and/or medium JPEG compression (single- or
    multi-page)
    /// </summary>
    CVT_TIFF_G4_MEDJPG,
    /// <summary>
    /// TIFF with Group IV and/or LZW compression (single- or multi-
    page)
    /// </summary>
    CVT_TIFF_G4_LZW,
    /// <summary>
    /// TIFF with no compression (single- or multi-page)
    /// </summary>
    CVT_TIFF_NONE,
    /// <summary>
    /// PDF with Group IV and/or medium JPEG compression (single- or
    multi-page)
    /// </summary>
    CVT_PDF_G4_MEDJPG,
    /// <summary>
    /// PDF with Group IV and/or LZW compression (single- or multi-page,
    and image-only PDFs)
    /// </summary>
    CVT_PDF_G4_LZW,
    /// <summary>

```

```

    /// JPEG with medium JPEG compression (single-page only)
    /// </summary>
    CVT_JPG_MEDJPG,
    /// <summary>
    /// GIF (single-page only)
    /// </summary>
    CVT_GIF,
    /// <summary>
    /// BMP (single-page only)
    /// </summary>
    CVT_BMP,
    /// <summary>
    /// PNG (single-page only)
    /// </summary>
    CVT_PNG
/// <summary>
    /// JPEG 2000 (single-page only when exporting to ImageSilo or PVE)
    /// </summary>
    CVT_JPG2000
}

```

public enum OutputFileType

This enumeration is used by the GetPageImage() function, and specifies the output file types when single pages are retrieved from a multi-page image.

```

{
    /// <summary>
    /// JPEG
    /// </summary>
    OFT_JPG
    /// <summary>
    /// TIFF
    /// </summary>
    OFT_TIFF
    /// <summary>

```

```

    /// Bitmap
    /// </summary>
    OFT_BMP
}

```

public enum UIRefreshLevel

This enumeration synchronizes the user interface with any changes made to the batch via custom code. Setting the UIRefreshLevel in custom code forces the user interface to refresh the selected component specified by the enumeration value (None, Index, CurrentDocumentIndexes, etc.). If you use either the Index Populated or Index Validate Custom Code Event to change an index value, the Indexing window will remain synchronized using the **UIRefreshLevel.Index** value.

```

{
    /// <summary>
    /// no UI refresh required
    /// </summary>
    None = 0x00,
    /// <summary>
    /// index field needs to be refreshed (i.e., via IndexValidate or
    IndexPopulate
    event)
    /// </summary>
    Index = 0x01,
    /// <summary>
    /// all indexes for current document need to be refreshed (does not apply
    to Match and Merge)
    /// </summary>
    CurrentDocumentIndexes = 0x02,
    /// <summary>
    /// current page needs to be refreshed
    /// </summary>
    SinglePage = 0x04,
    /// <summary>
    /// multiple pages need to be refreshed
    /// </summary>
    MultiPage = 0x08
}

```

```
}

```

Public Properties

The public properties listed in this section can be used within your custom code.

```

    /// <summary>
    /// Batch object
    /// </summary>
    public PVBatch Batch

    /// <summary>
    /// Parent window
    /// </summary>
    public Control Parent

    /// <summary>
    /// Control referencing the current index
    /// </summary>
    public Control Control

    /// <summary>
    /// Used to pass optional parameters
    /// </summary>
    public object Parameter

    /// <summary>
    /// Code result that returns status of custom code execution
    /// </summary>
    public CodeResult CodeResult

    /// <summary>
    /// PDF Resolution used when importing PDF files
    /// </summary>
    public Int32 PDFResolution

    /// <summary>

```

```
/// PDF Smoothing option used when importing PDF files
/// </summary>
public PDFSmoothing PDFSmoothing
```

Debugging Custom Code

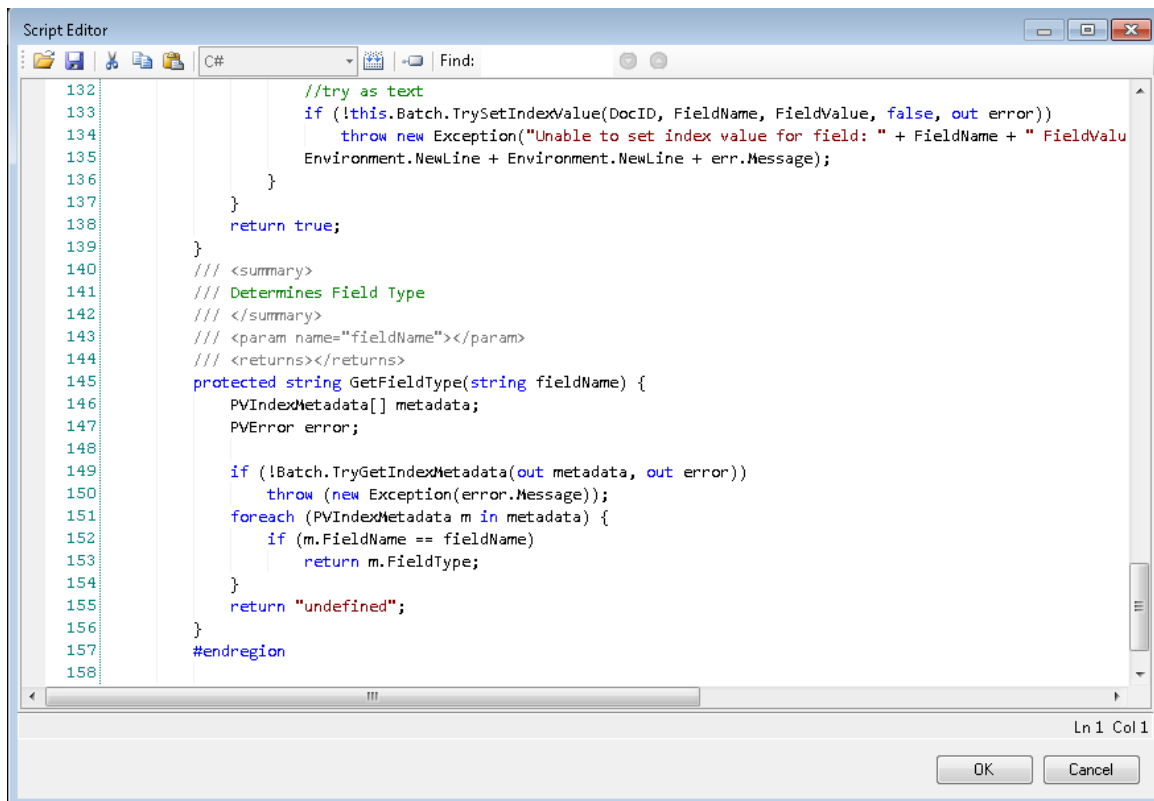
Custom code that you enter in the Script Editor is compiled on-the-fly by the PaperFlow application so there is no way to debug or step through this code at run time. However, if you write code in your own assemblies and call out to these pre-compiled assemblies, then you can debug this code by attaching your debugger to the PaperFlow.exe process.



WARNING: Do not attempt to debug code in a production environment. Doing so may adversely impact system performance and have unpredictable impacts on customer data and end-user functionality.

Script Editor

The Script Editor launches with pre-written, generic code that you can edit and compile directly in the window. The Script Editor window contains the "CallHandler" pre-written method. Although you can add new methods or properties to the "Code" class or call out to other classes (even those defined in your own, separately-compiled assemblies), you should not remove the "CallHandler" method since it is the entry point for executing your custom code. If you call out to other namespaces, remember to add a reference to the necessary assemblies, which is described in more detail below.



Script Editor

Importing Custom Code

The **Import** command allows an external custom code XML file to be loaded into the **Script Editor**.

To import an external XML file

1. Click **Import**.
2. In the **Open** dialog box, locate the XML file.
3. Select the XML file to import.
4. Click **Open**.

Exporting Custom Code

The **Export** command allows you to export custom code as an XML file.

To export custom code

1. Click **Export**.

Note: Code that does not compile successfully in the **Script Editor** cannot be exported.

2. In the **Save As** dialog box, locate the directory to save the exported XML file.
3. Enter a file name.
4. Click **Save**.

Cutting, Copying, and Pasting Custom Code

You can cut, copy, and paste sections of the custom code within the same **Script Editor** or to another editor.

To cut/paste custom code

1. Highlight the code in the **Script Editor**.
2. Click **Cut**.
3. Paste the code to the new location within the **Script Editor** or to another editor by clicking **Paste**.

To copy/paste custom code

1. Highlight the code to copy.
2. Click **Copy**.
3. Paste the code into the new location within the **Script Editor** or to another editor by clicking **Paste**.

Compiling Custom Code

The Compile command validates your code.

To compile your code:

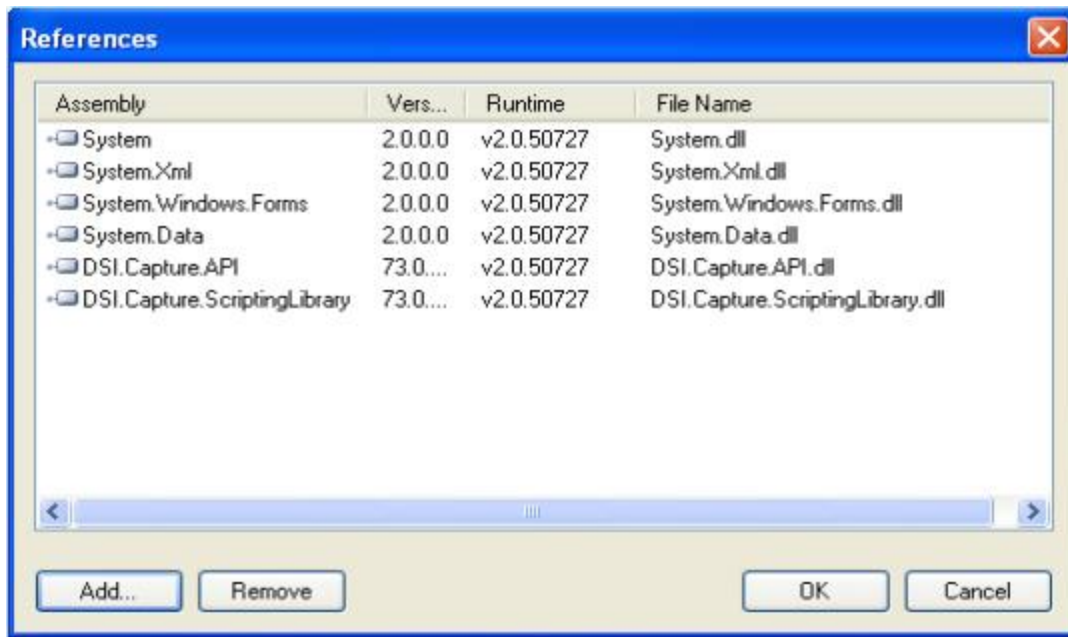
1. After writing your custom code in the **Script Editor**, click **Compile**.
 - The message, "**Code compiled successfully**," should appear.
 - Compilation errors will display at the bottom, along with the location of the errors and their descriptions.
2. Fix any errors that exist, and then compile again.
3. Once the success message appears, click **OK**.

References

References are used to link external assemblies, including standard .NET or custom assemblies that you generate.

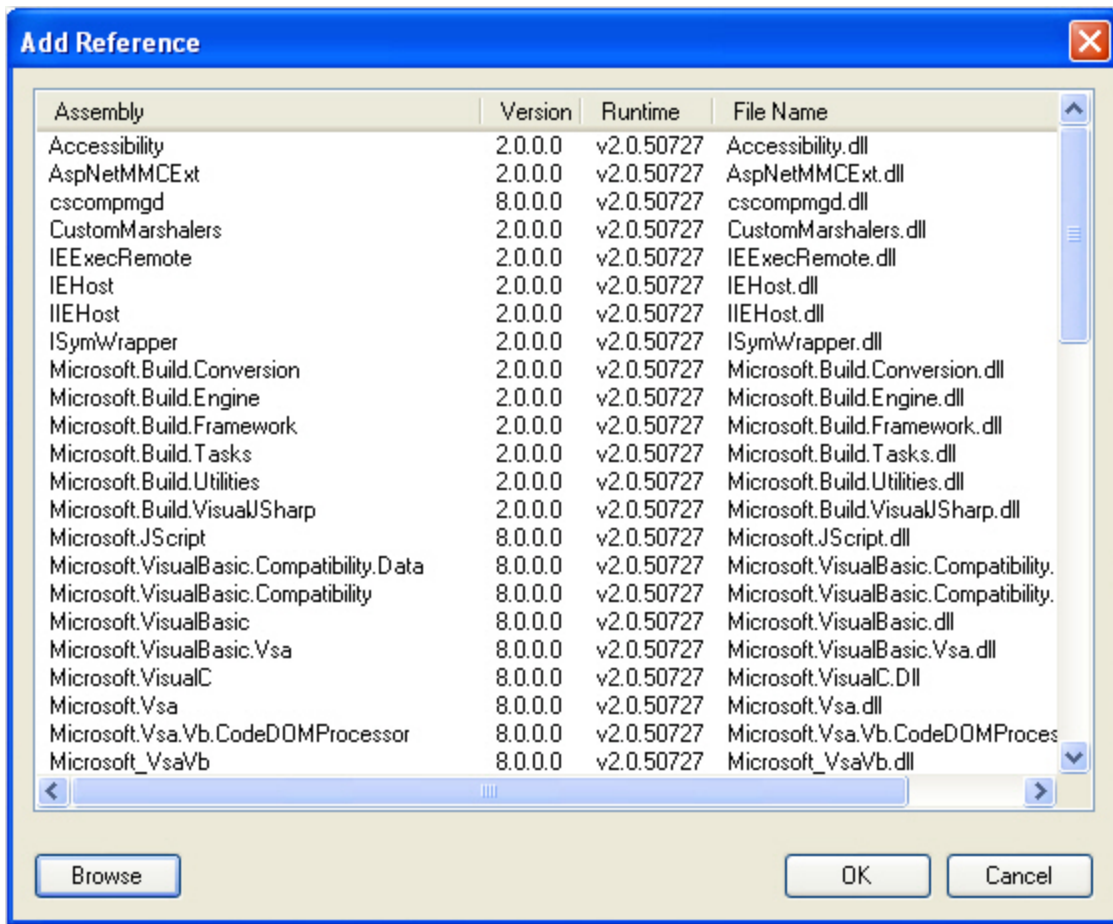
To add a reference

1. Click **References**, which opens the **References** dialog box.



References

2. Select the **assembly <file name>.dll** from the list.
3. Or, click the **Add** button which opens the **Add Reference** list.



Add Reference

4. Select the **.dll** from the list.
5. Or, click the **Browse** button to locate the appropriate **.dll**.
6. Click **OK**.
7. To remove a reference from the list, highlight the reference, and then click the **Remove** button in the **References** dialog box.
8. When you are finished adding and removing references, click **OK** in the **References** dialog box.

Finding Code in the Script Editor

You can quickly locate code in the script editor by using the Find operation.

To find code in the Script Editor

1. In the **Find** field, enter the code or character.
2. Press **Enter** to initiate the search. The code or character will be highlighted in the Script Editor.
3. Or, press the **Find Next** or **Find Previous** to search for instances of your specified code or character.

Debugging Custom Code

Custom code that you enter in the Script Editor is compiled on-the-fly by the PaperFlow application so there is no way to debug or step through this code at run time. However, if you write code in your own assemblies and call out to these pre-compiled assemblies, then you can debug this code by attaching your debugger to the PaperFlow.exe process.

WARNING! Do not attempt to debug code in a production environment. Doing so may adversely impact system performance and have unpredictable impacts on customer data and end-user functionality.

Match and Merge Wizard

When you edit your job settings from the Edit page, you can configure the Match and Merge Wizard to match PaperFlow indexes to external database tables, spreadsheets, and other files. The Match and Merge Wizard is where you configure the connection properties, field mapping, and additional settings.

Note: Ensure that the lookup table and columns for the database have been configured and indexes have been defined before launching the Match and Merge Wizard.

Matching and Merging with Text Files

If you are using custom code to match and merge index fields with a text file, you can control how data is handled in the lookup table. If the text file contains dates, currency, or decimal data, for example, you can manipulate how data is formatted by creating a schema information (Schema.ini) file and placing it in the same directory where the text file resides. If you do not define how date columns are handled, date values will be imported in the DateTime format. Information on how to create Schema.ini files can be found in the Microsoft Software Developer's Network:

[http://msdn.microsoft.com/en-us/library/ms709353\(VS.85\).aspx](http://msdn.microsoft.com/en-us/library/ms709353(VS.85).aspx)

Document Match and Merge

The Document Match and Merge Wizard provides a graphical user interface to guide you through the configuration of your database server parameters, field mapping, and other settings.

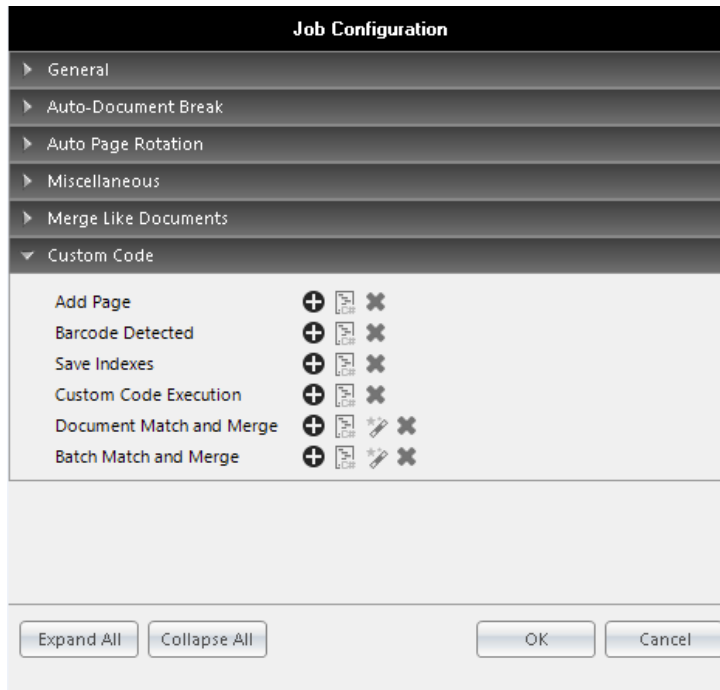
To configure the Document Match and Merge Wizard

1. In the **Edit** tab, click **Advanced Configuration** in the **Job Settings** toolbar group. The **Job Configuration** window appears.



Job Configuration

- Expand the **Custom Code** menu. The **Custom Code** events appear.



Custom Code

- Click **Add** next to **Document Match and Merge**. The **Match and Merge Wizard - Connection Properties** screen appears after you launch the wizard. You can configure the database connection properties including the database server and name, user name and password, and database look up table.

Connection Properties

- In the **Connection Properties** screen, enter the database server and database name where Match and Merge will be performed.
- Enter the user name and password for the database server connection.

Note: If you leave the **User Name** and **Password** fields blank, the database connection will use the Windows Authentication credentials. Entering a user name and password for the database will supersede the Windows Authentication credentials.

- To insert a custom connection string, select the check box, and then edit the string in the window. Below are examples of custom connection strings.

Text File Custom Connection String

```
Provider=Microsoft.Jet.OLEDB.4.0;Data Source=c:\txtFilesFolder\;Extended
Properties="text;HDR=Yes;FMT=Delimited";
```

CSV File Custom Connection Strings

```
Provider=Microsoft.Jet.OLEDB.4.0;Data Source=c:\txtFilesFolder\;Extended
Properties="text;HDR=Yes;FMT=CSVDelimited";
```

Note: If the TEXT file delimitation is TAB delimited the following registry change needs to be applied:

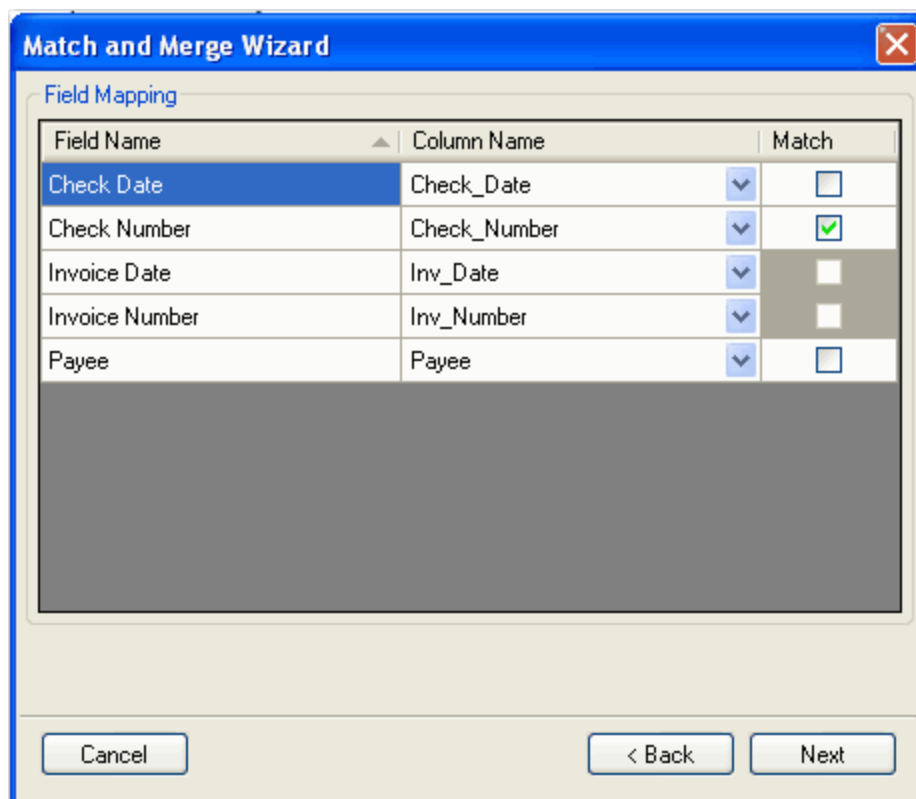
```
HKEY_LOCAL_MACHINE \ SOFTWARE \ Microsoft \ Jet \ 4.0 \ Engines \ Text
```

```
"Format" = "TabDelimited"
```

or

```
"Format" = "Delimited(;)"
```

7. Click the **Connect** button to test the connection to the database. Once connected, the **Lookup Table** drop-down menu will populate.
8. Click the **Lookup Table** drop-down menu to select the database table used for lookups.
9. Click **Next**, and the **Field Mapping** screen appears.



Field Mapping

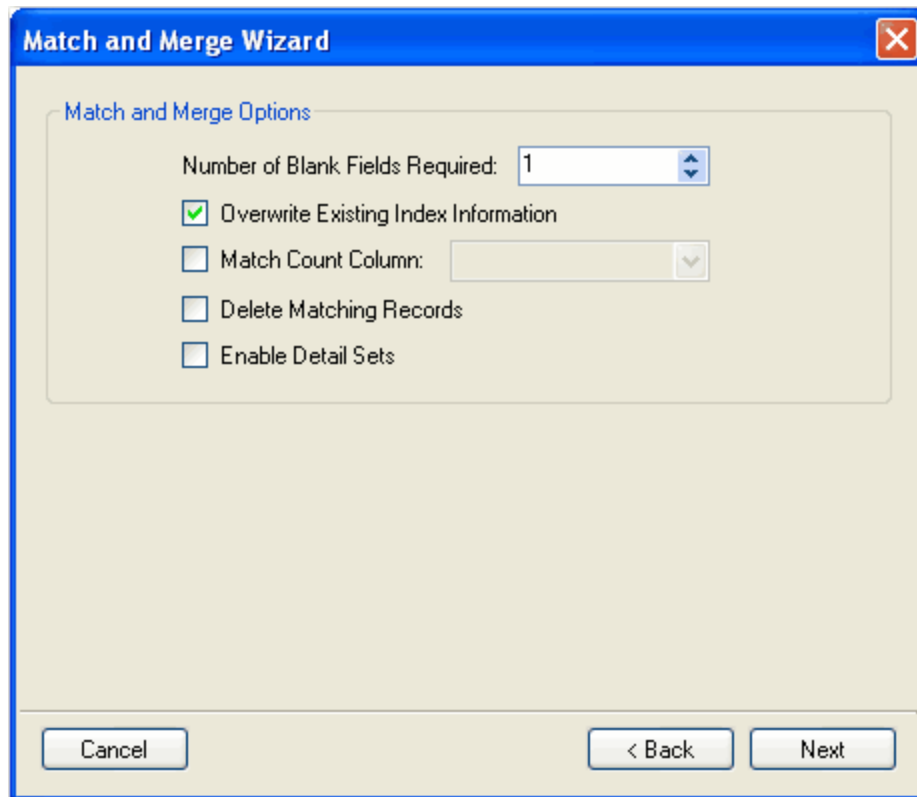
10. The **Field Mapping** screen allows you to match the columns in the database to the field names (indexes) that you defined. Click the **Column Name** drop-down menu(s) to select the database column name that will match the field name(s). If one of the index fields should not be matched, do not map it to the Column Name. When the operator executes the Merge Index Values command, only the mapped fields will be populated in the Indexing window.

Note: Field names are synonymous with indexes that have been defined.

11. After selecting the column names, click the **Match** check box(es). Detail fields are denoted with shaded **Match** columns and cannot be selected to match.
 - In the example above, the Check Number index value, entered by the operator, will be matched with the corresponding Check_Number column in the database.
 - Once the operator executes the Merge Index Values command, the corresponding Check Date, Invoice Date, Invoice Number, and Payee are populated in the Indexing window.
 - If the operator does not know the exact index value during hand-key indexing, the operator can insert wild-card characters to perform a partial search against a database. For example, the operator can insert the percent sign (%) to specify any number of unknown characters to search for in a SQL, Sybase, or Oracle database; the operator can insert the asterisk (*) to specify any number of unknown characters to search for within a Microsoft Access database.

Note: All fields with the Match column selected must be populated prior to running the Merge Index Values command.

12. Click **Next**, and the **Match and Merge Options** screen appears.



Match and Merge Options

13. The **Match and Merge Options** screen contains additional parameters that define the match and merge process. In the **Number of Blank Fields Required** field, enter the number of fields that must be blank in order for PaperFlow to attempt to match during the custom code execution.
 - For example, you assign the **Number of Blank Fields Required** a value of two. If only one field is left blank before the Match and Merge is executed, PaperFlow will not match because at least two fields were not blank.
 - Valid values range from zero to the number of database columns that are defined. For example, if you have five database columns defined, you can enter a value from zero to five.
14. If you select the **Overwrite Existing Index Information** check box, the Match and Merge values will overwrite the existing index entries already populated in the batch.
15. The Match Count Column setting applies only to integer data type columns in the database. Select the **Match Count Column** check box if the match count should increment in the database by one each time a match is encountered. If you enable this setting, choose the database column from the drop-down menu. If you enable this setting, choose the database column from the drop-down menu.
16. Select the **Delete Matching Records** check box to remove the matching record from the database once it is found during the match and merge process.

Note: You can only enable the **Match Count Column** or the **Delete Matching Records** setting, but not both.

17. Select the **Enable Detail Sets** check box if the detail fields should be populated when the operator enters the index fields. See [Detail Sets](#) for more information.

Note: If you do not select this check box, the operator is presented with a pick list of data that meets the index field criteria. The operator then selects the appropriate record, and the detail fields are populated according to the selected record.

18. Click **Next**, which opens the last screen of the wizard.
19. Click **Finish**, which opens the **Script Editor** so you can make edits to the code if necessary.
20. Click **OK**.

Batch Match and Merge

The Batch Match and Merge Wizard provides a graphical user interface to guide you through the configuration of your database server parameters, field mapping, and other settings.

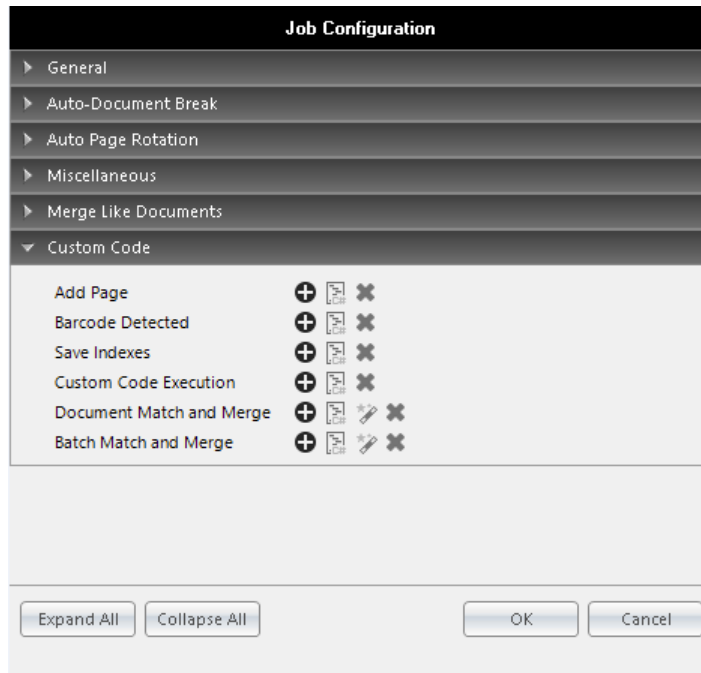
To configure the Batch Match and Merge Wizard

1. In the **Edit** tab, click **Advanced Configuration** in the **Job Settings** toolbar group. The **Job Configuration** window appears.



Job Configuration

2. Expand the **Custom Code** menu. The **Custom Code** events appear.



Custom Code

3. Click **Add** next to **Batch Match and Merge**. The **Match and Merge Wizard - Connection Properties** screen appears after you launch the wizard. You can configure the database connection properties including the database server and name, user name and password, and database lookup table.

Connection Properties

4. In the **Connection Properties** screen, enter the database server and database name where Match and Merge will be performed.
5. Enter the user name and password for the database server connection.

Note: If you leave the **User Name** and **Password** fields blank, the database connection will use the Windows Authentication credentials. Entering a user name and password for the database will supersede the Windows Authentication credentials.

6. To insert a custom connection string, select the check box and edit the string in the window.

Below are examples of custom connection strings.

Text File Custom Connection String

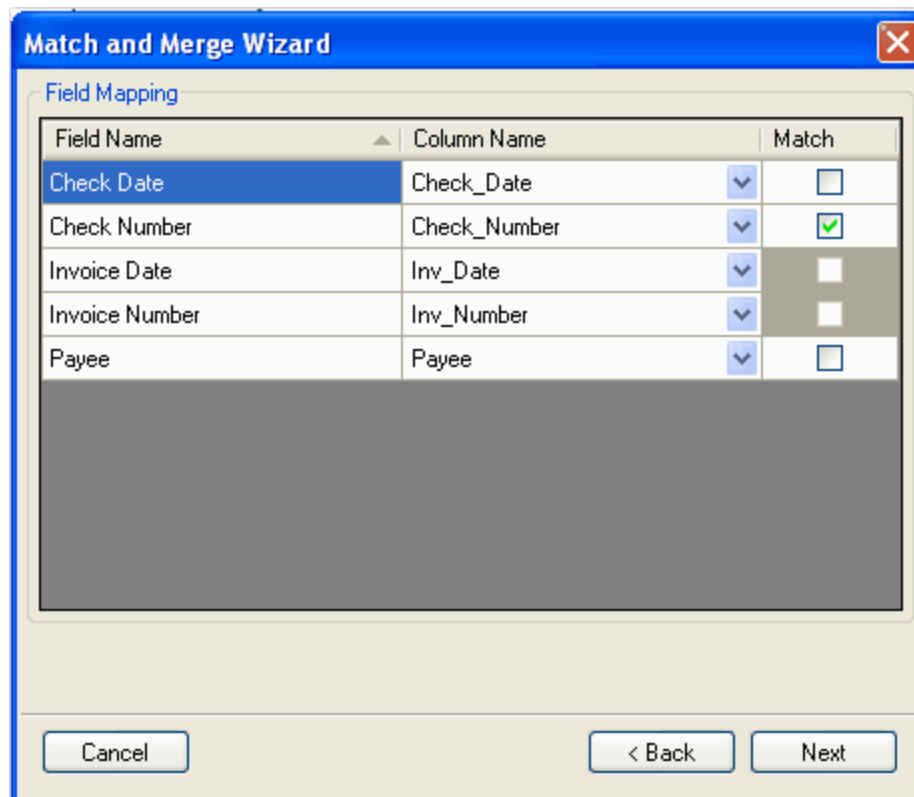
```
Provider=Microsoft.Jet.OLEDB.4.0;Data Source=c:\txtFilesFolder\;Extended
Properties="text;HDR=Yes;FMT=Delimited";
```

CSV File Custom Connection Strings

```
Provider=Microsoft.Jet.OLEDB.4.0;Data Source=c:\txtFilesFolder\;Extended
Properties="text;HDR=Yes;FMT=CSVDelimited";
```

Note: If the TEXT file delimitation is TAB delimited the following registry change needs to be applied:
 HKEY_LOCAL_MACHINE \ SOFTWARE \ Microsoft \ Jet \ 4.0 \ Engines \ Text"Format" =
 "TabDelimited" or"Format" = "Delimited(;)"

7. Click the **Connect** button to test the connection to the database. Once connected, the **Lookup Table** drop-down menu will populate.
8. Click the **Lookup Table** drop-down menu to select the database table used for lookups.
9. Click **Next**, and the **Field Mapping** screen appears.



Field Mapping

10. The **Field Mapping** screen allows you to match the columns in the database to the field names (indexes) that you defined. Click the **Column Name** drop-down menu(s) to select the database column name that will match the field name(s). If one of the index fields should not be matched, do not map it to the Column Name. When the operator executes the Merge Index Values command, only the mapped fields will be populated in the Indexing window.

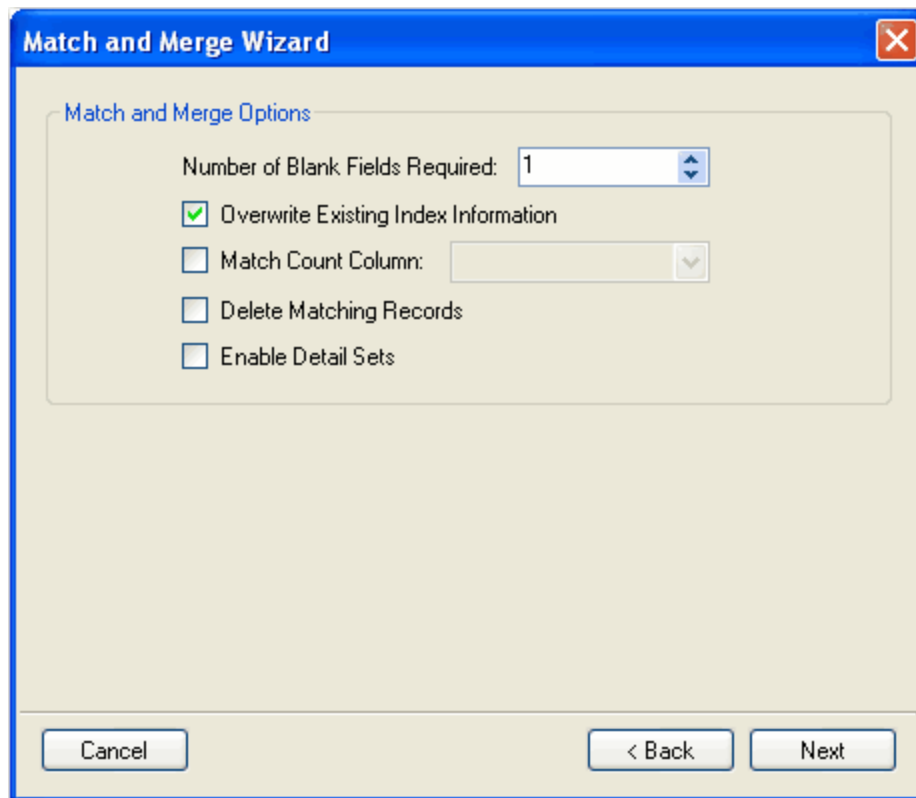
Note: Field names are synonymous with indexes that have been defined.

11. After selecting the column names, click the **Match** check box(es). Detail fields are denoted with shaded **Match** columns and cannot be selected to match.

- In the example above, the Check Number index value, entered by the operator, will be matched with the corresponding Check_Number column in the database.
- Once the operator executes the Merge Index Values command, the corresponding Check Date, Invoice Date, Invoice Number, and Payee are populated in the Indexing window.
- If the operator does not know the exact index value during hand-key indexing, the operator can insert wildcard characters to perform a partial search against a database. For example, the operator can insert the percent sign (%) to specify any number of unknown characters to search for in a SQL, Sybase, or Oracle database; the operator can insert the asterisk (*) to specify any number of unknown characters to search for within a Microsoft Access database.

Note: All fields with the Match column selected must be populated prior to running the Merge Index Values command.

12. Click **Next**, and the **Match and Merge Options** screen appears.



Match and Merge Options

13. The **Match and Merge Options** screen contains additional parameters that define the match and merge process. In the **Number of Blank Fields Required** field, enter the number of fields that must be blank in order for PaperFlow to attempt to match during the custom code execution.
 - For example, you assign the **Number of Blank Fields Required** a value of two. If only one field is left blank before the Match and Merge is executed, PaperFlow will not match because at least two fields were

not blank.

- Valid values range from zero to the number of database columns that are defined. For example, if you have five database columns defined, you can enter a value from zero to five.
14. If you select the **Overwrite Existing Index Information** check box, the Match and Merge values will overwrite the existing index entries already populated in the batch.
 15. The Match Count Column setting applies only to integer data type columns in the database. Select the **Match Count Column** check box if the match count should increment in the database by one each time a match is encountered. If you enable this setting, choose the database column from the drop-down menu. If you enable this setting, choose the database column from the drop-down menu.
 16. Select the **Delete Matching Records** check box to remove the matching record from the database once it is found during the match and merge process.

Note: You can only enable the **Match Count Column** or the **Delete Matching Records** setting, but not both.

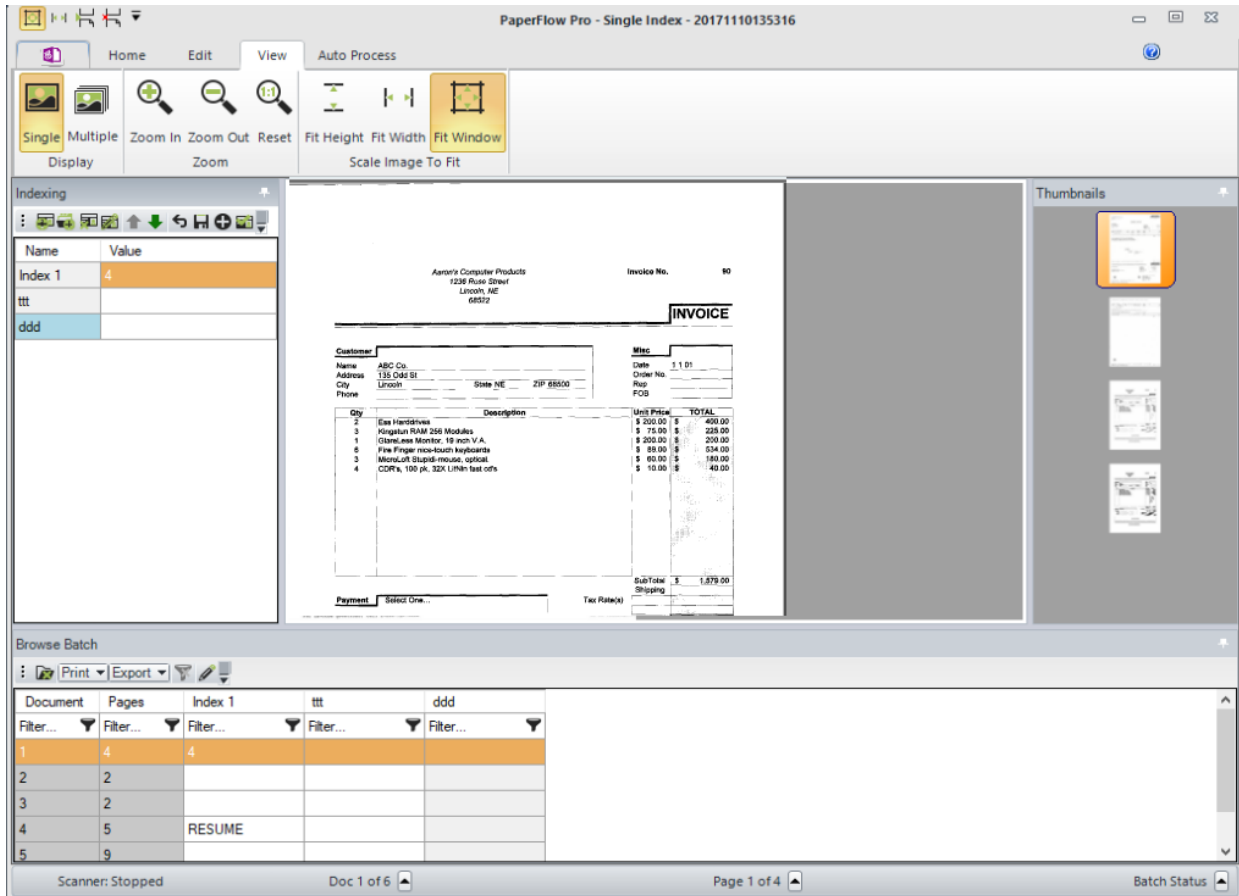
17. Select the **Enable Detail Sets** check box if the detail fields should be populated when the operator enters the index fields. See [Detail Sets](#) for more information.
-

Note: If you do not select this check box, only the matched result is returned.

18. Click **Next**, which opens the last screen of the wizard.
19. Click **Finish**, which opens the **Script Editor** so you can make edits to the code if necessary.
20. Click **OK**.

Chapter 6 - View Page

The View page contains document and page viewing operations that help you manage page display settings in PaperFlow. Additionally, you can alter the scaling of each page (Scale to Height, Scale to Width, and Scale to Window) and execute zoom (Zoom In and Zoom Out) operations. You can also index documents (and all associated indexing operations) within the View page.



View Page

Display

The Display toolbar group operations allow you to choose a single-page display or multiple-page display for documents in the main viewing window.

- To view one page at a time in the main window, select **Single**.
- To view multiple pages in the main window, select **Multiple**. To assign the number of rows and columns that appear at a time, see [Display Preferences](#) for more information.

Note: Windows that you open or close in single-display and multiple-display views, such as Thumbnails, Index Manager, and Browse Batch, etc., are retained in each view.

Zooming and Scaling - Order of Operations

In PaperFlow, index zoom zones (described in the [Basic Indexing Properties](#) topic), user-defined zoom zones (Zoom In/Out), and scaling (Scale to Height/Width/Window) can be applied to images viewed in the application. Zoom zones and scaling operations are applied in the following order:

1. Any defined index zoom zones take precedence over all zoom zone or scaling settings that have been applied on images in PaperFlow. So, when you navigate to an index field defined by an index zoom zone, the index zoom zone will be applied. If you enable the **Hold Zoom Regions** system preference, any zoom zone that you apply will be retained until you navigate to an index field defined with a different zoom zone.
2. If you enable the **Hold Zoom Regions** system preference, any zoom zone that you apply on the image will be retained across all index fields, pages, and documents.
3. If you disable **Hold Zoom Regions** system preference, any zoom zone that you apply on the image will not be retained across index fields, pages, and documents.
4. Finally, any scaling that you apply on the image takes precedence over the Hold Zoom Regions system preference and any zoom zone that you have applied on the image. However, scaling the image does not impact any defined index zoom zones, which take precedence over all settings and operations.

Note: For more information, see the **Hold Zoom Regions** setting description in the [System Preferences](#) topic.

Zoom Operations

- To zoom in on an area of the image, click **Zoom In**.

Note: You can also use the left mouse button to draw a boundary that will zoom into an area of the image.

- To zoom out of the current view of the image, click **Zoom Out**.
- This command sets the image rotation back to its original view and displays the image using the Scale to Window view. To reset the image to its original view, click **Reset**.

Scale Image

These commands fit images to the height, width, or both height and width of the screen.

- Click **Fit to Height** to scale the image to the height of the main window.
- Click **Fit to Width** to scale the image to the width of the main window.
- Click **Fit to Window** to scale the image to fit the entire image in the main window.

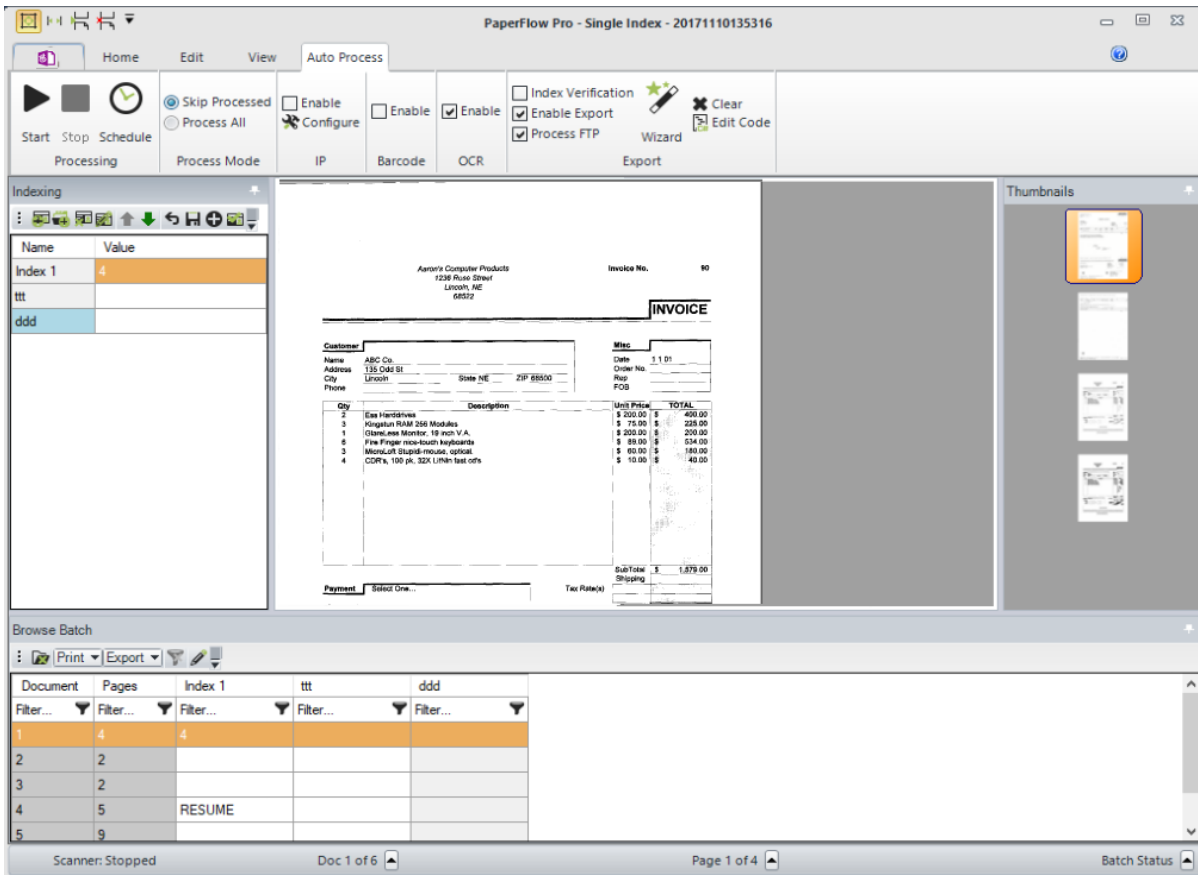
Chapter 7 - Auto Process Page



The Auto Process page allows you to select the automated processing tasks required to process the batch. When you configure the Image Processing or Full-Text automated task, a context-sensitive page will launch that contains only the operations and properties specific to the task. If you want to include the barcode and zonal OCR automated tasks as a post-process (after scanning and indexing), you must first define barcode and OCR zones in the [Home page](#). To include a task during automated processing, select the **Enable** check box next to each required task. If an automated task is not yet configured, the **Enable** check box will not be available for selection.

In the Auto Process page, you can define PaperFlow exports in a wizard that contains a simple, tabbed graphical user interface. To expedite export configuration, default properties appear in drop-down menus, editable fields, and check boxes that you can easily modify.

The Processing toolbar group contains the Start and Stop, and schedule processing operations. The Process Mode allows you to select whether to process all documents in the batch (regardless of whether previously processed) or skip documents already processed. Your selected automated processes and settings are retained for the current job, so you will not have to repeatedly assign the same settings for subsequent batches.



Auto Process Page

Process Action (Starting/Stopping)

The Processing toolbar group contains the Start and Stop, and schedule processing commands that start and stop automated processing tasks.

To start and stop automated processing

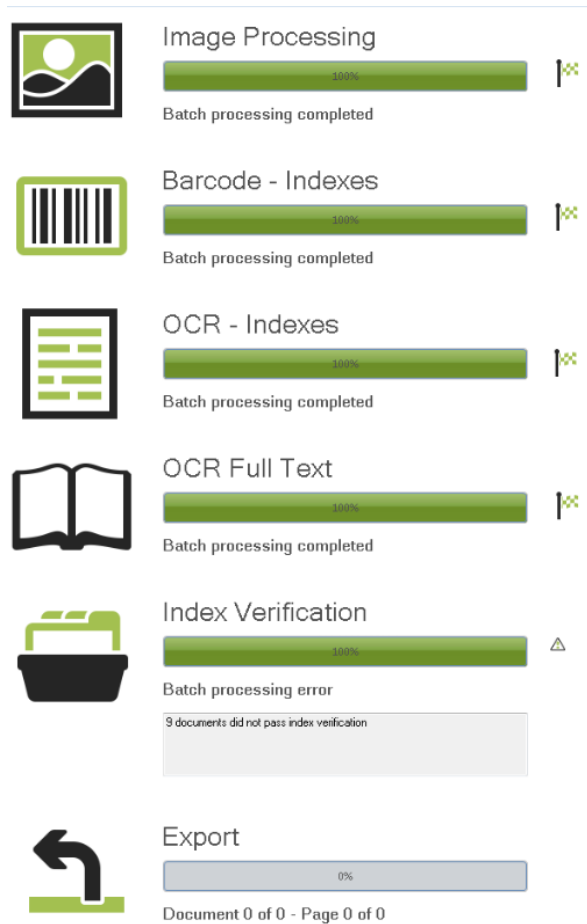
1. Ensure all required automated processing tasks have been configured.
2. Select the **Enable** check box next to all required automated tasks.
3. To execute the automated processing tasks, click **Start** .
4. To cancel (stop) an automated process, click **Stop**.

IMPORTANT! If you attempt to close PaperFlow while automated processing is executing, you will be prompted to stop all automated processing tasks currently in progress. When you stop an automated process already in progress, the remainder of the current document will be processed, so larger documents may take several minutes to process.

While automated processing executes in the Auto Process page, the following information displays on screen:

- Whether the batch was processed successfully for each task
 - Number of documents (document x of x) completed for each task
 - Number of pages (page x of x) completed for each task
 - If an error occurs, descriptions of each error appear on screen
-

Note: If a task fails to process, subsequent tasks will not be processed.



Auto Process Progress Bar

5. To exit the progress page and return to the **Auto Progress** page, click the **Exit**  icon.

Schedule a Batch Processing Task

The scheduling feature of the Automation Process enables the user to schedule batch processing at times when it is most convenient for the organization. The scheduling feature not only allows for time scheduling but also processor scheduling. A time limit for batch processing can also be scheduled to ensure that batch processing does not interfere with higher priority jobs.

To schedule a batch

1. Open the batch from the Auto Process tab, and then click **Schedule**. The **Add Batch Processing Task** dialog displays.

Add Batch Processing Task

2. Enter task information.
 - **Task Name:** Optionally enter a name for the task.
 - **Task Description:** Optionally enter a description about the task.
 - **Batch:** This field is populated with the name of the batch that was opened.

Note: If the **Add Batch Processing Task** dialog was accessed from the **Add Batch Processing Task** button on the **Home** screen, the **Batch** drop-down window can be accessed to select an existing batch .

3. From the **Priority** drop-down menu, select the appropriate priority level for this batch. The levels are listed in order of priority. A batch with a priority level of **Critical** will be processed before a batch with a priority level of **Normal**.
4. Configure the time after which the batch will be processed:

Date: Select the date on which the batch will be processed. Click the arrow on the right of the field and use the calendar drop down widget to select the date.

Time: Enter the time of day the batch will be processed. The batch will not process until this time has elapsed.

Limit Task Processing Time: Select this option and then enter the amount of time the processor can spend processing this batch.
5. Select the action(s) to process using this batch:
 - Skip Processed Documents
 - Image Processing
 - Zonal Barcode
 - Zonal OCR

- Index Verification
- Export

6. Click **OK** to save the configuration.

Process Mode

The Process Mode allows you to select whether to process all documents in the batch (regardless of whether previously processed) or skip documents that were already processed. The default selection is **Skip Processed**.

If you opt to skip documents that have already been processed, a progress indicator will read "Skipping Document x of x" when you execute automated processing. You cannot stop automated processing while documents are being skipped since the Stop operation only executes when documents are being processed.

Image Processing

Image processing filters help remove unnecessary borders, lines, and noise from images; they also enhance text readability and reduce file size. Additional image processing filters evaluate images, and then keep or discard them based on your defined criteria. Color detection filters identify your specified colors and convert the image to black and white or remove the page containing the color image. Binary filters can only be applied to bitonal (1 bit per pixel) images; color and gray scale are ignored. See the Image Processing Configuration topic for more information.

To enable image processing

1. You must first define IP filters and/or zones. See the [Image Processing Configuration](#) topic for more information.
2. When finished with image processing configuration, return to the **Auto Process** page.
3. On the **Auto Process** page, click the **Enable** check box in the **IP** toolbar group.

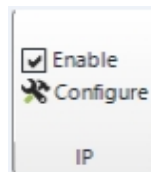


Image Processing Automated Task - Enabled

4. Click **Start** to start the process or click **Schedule** to schedule the task to process later.

If the Scheduler is being configured, the **Upcoming Schedule for this Batch** dialog displays, click **Close**.

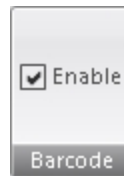
Barcode

You can use barcodes to populate new or existing index values and insert document breaks. PaperFlow recognizes one- and two-dimensional, black and white, and color barcodes. In the Auto Process page, you can configure a barcode reading process that executes automatically during post-processing. For information on configuring a barcode reading process while you scan (on the fly), see the [Home Page](#) topic.

Note: Use of the scaling image processing filter can improve the recognition rate of barcode detection. For more information, see the [Image Processing Filters](#) topic.

To enable an automated barcoding process

1. You must first define barcode zones and properties in the Home page. See the [Barcode Zone Configuration](#) topic for more information.
2. When finished with barcode zone configuration, return to the **Auto Process** page.
3. In the Auto Process page, click the **Enable** check box in the **Barcode** toolbar group.



Barcode Automated Task- Enabled

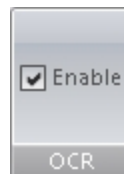
4. Click **Start** to start the process or click **Schedule** to schedule the task to process later.
If the Scheduler is being configured, the **Upcoming Schedule for this Batch** dialog displays, click **Close**.

Zonal OCR

You can customize zonal Optical Character Recognition (OCR) settings for individual index fields or to insert document breaks. Character recognition options allow you to customize how values are recognized by OCR processing.

To enable automated zonal OCR:

1. You must first define OCR zones and properties in the Home page. See the [OCR Zone Configuration](#) topic for more information.
2. When finished with barcode zone configuration, return to the **Auto Process** page.
3. In the Auto Process page, click the **Enable** check box in the **OCR** toolbar group.



OCR Automated Task- Enabled

4. Click **Start** to start the process or click **Schedule** to schedule the task to process later.
If the Scheduler is being configured, the **Upcoming Schedule for this Batch** dialog displays, click **Close**.

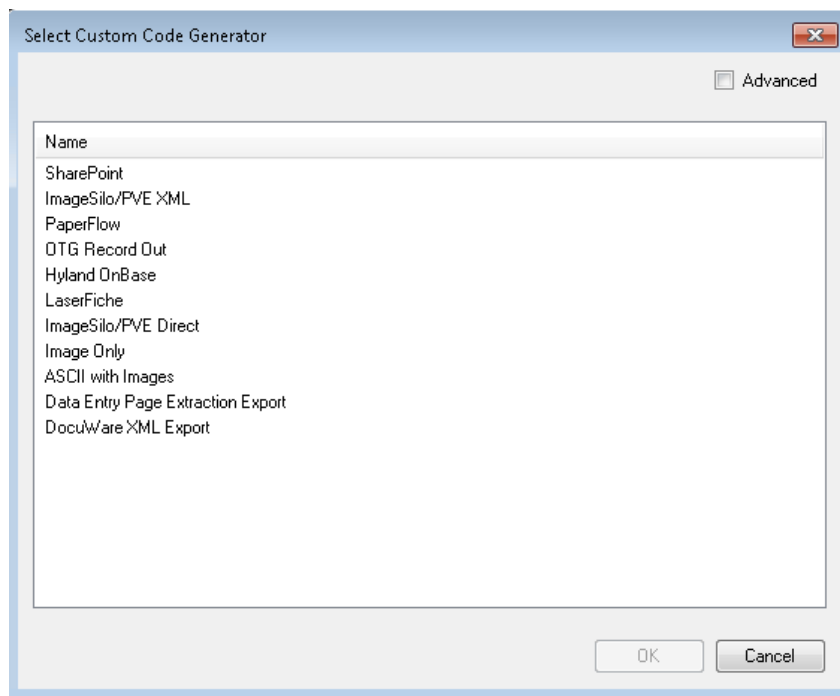
Exports

When you configure an export, you can select either the C# or Visual Basic programming language and the custom code generator that will execute automatically during batch processing. Custom Code generators include all exports and customizable scripts that contain pre-written, generic code to edit and compile directly in the [Script Editor](#) window. You can configure Custom Code generators within a graphical user interface that displays only the applicable properties for your selection. Default settings are provided for each generator within drop-down menus, editable fields, and check boxes (indicating a default **True** or **False** setting). The Basic generator provides a generic code template, and the Export Template generator provides a generic template for custom exports that you can execute automatically during batch processing.

IMPORTANT: The Visual Basic programming language can only be used with the Export Template.

To configure and process exports

1. In the **Auto Process** page, click **Wizard** in the **Export** toolbar group. The **Select Custom Code Generator** dialog box appears, where each export and corresponding description are listed.



Select Custom Code Generator

2. Double-click the export, and the corresponding **Export Configuration** tabbed dialog box appears.

Note: See the [Exports](#) topic for information on specific exports and their associated properties.

3. After you have configured the export, click **OK** in the **Export Configuration** dialog box.
4. Click the **Enable** check box in the **Export** toolbar group.

- Click **Start** to start the process or click **Schedule** to schedule the task to process later.

If the Scheduler is being configured, the **Upcoming Schedule for this Batch** dialog displays, click **Close**.

Export Wizard

If you have not yet manually edited the resulting code in the [Script Editor](#), you can edit properties in your existing export by clicking **Wizard** in the **Export** toolbar group. The tabbed **Export Configuration** dialog box will appear, allowing you to edit previously assigned values. See the [Exports](#) topic for more information on specific exports.

Editing Code

If you have already configured an export using the export wizard and you want to edit the resulting code in the Script Editor, click **Edit Code**. However, if you further edit the custom code script with the Custom Code Generator Wizard, your previous code changes in the Script Editor will be permanently lost. A warning prompt will notify you if you attempt to make export modifications in this manner. See the [Exports](#) topic for more information on specific exports, or see the [Script Editor](#) topic.

Clearing Export Scripts and Code

You can remove your existing export script and code from the Auto Process page.

Warning! This operation is irreversible.

To clear the existing export:

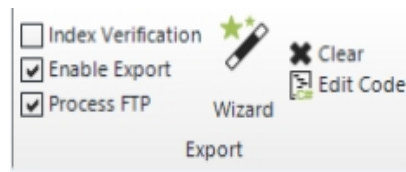
- In the Auto Process page, click **Clear** in the **Export** toolbar group.
- To confirm the removal, click **OK**.

FTP

The FTP operation securely transfers your documents, images, and associated index values to an FTP site. You can configure FTP settings in the PaperFlow or ImageSilo/PVE XML export using the custom code generator wizard (**Auto Process page > Wizard > PaperFlow or ImageSilo/PVE**). You can execute the FTP process from the Auto Process page, PaperFlow Button, or from the **Home** page.

To start (and stop) the FTP process

- Ensure you have configured the required FTP properties for the PaperFlow or ImageSilo/PVE XML custom code generator (export).
- In the Auto Process page, select the **Enable** and **Process FTP** settings in the **Exports** toolbar group.



Process FTP and Enable Export

- To process FTP from the **Home** page, select the **FTP** tab, and then click **Start FTP**. You can **Refresh** to view any new FTP tasks.

To process FTP from the Auto Process page, click **Start** in the **Process Action** toolbar group. For more information on automated processing, see the [Auto Process](#) topic.

Alternatively, from the **PaperFlow** button , select **FTP**.

- Click **Start** to start the process or click **Schedule** to schedule the task to process later. If the Scheduler is being configured, the **Upcoming Schedule for this Batch** dialog displays, click **Close**.

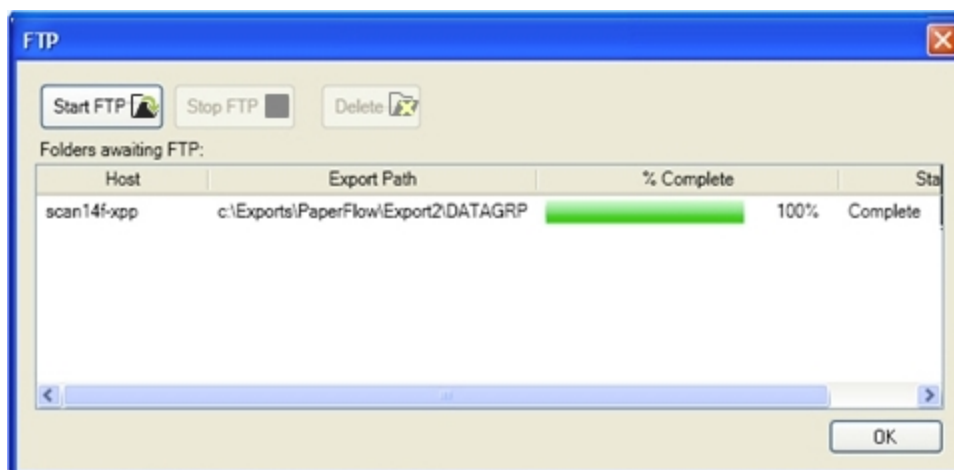
Note: A notification will inform you if no folders are awaiting transfer.

If an error occurs during FTP transfer, a notification will prompt you to select one of the following options:

- Skip Folder and Continue
- Remove Folder and Continue
- Retry Folder (With this option, the system will attempt to FTP the same folder until it is successfully transferred to the FTP site. As a result, the remaining folders may not be transferred.)
- Cancel FTP

Tip: If you frequently select the same option, you can select **Always perform selected action without prompt**. Alternatively, you can enable the FTP user preference, **Do Not Prompt to Select Action** (and, select the preferred action).

While FTP processes, the **FTP** progress bar appears:



FTP

While FTP executes, the FTP dialog box displays the following information:

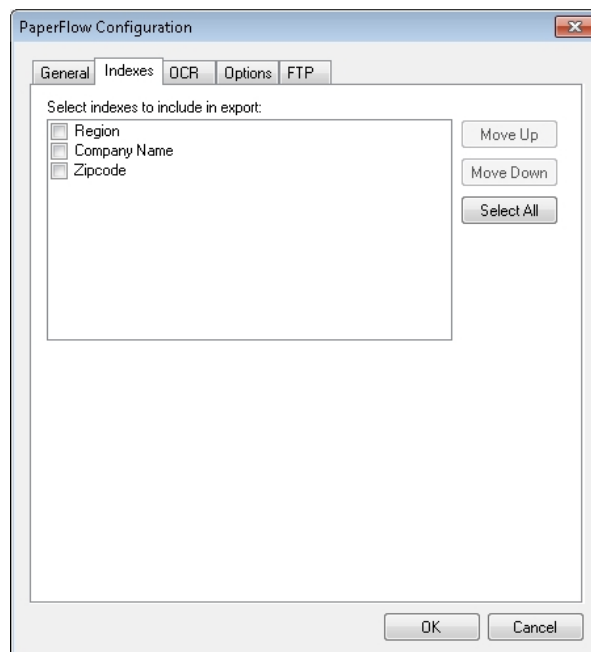
- FTP host site name
 - Export path
 - Percentage of FTP completed
 - Status of FTP (e.g., FTP uploading file x of x, complete, etc.)
5. If you do not want to cancel FTP, proceed to step 6. To cancel the FTP operation, click **Stop FTP**.
 6. To restart FTP, click **Start FTP**.
 7. If FTP finishes successfully, click **OK** in the **FTP** dialog.
 8. To close the progress page, click **Exit**.

Deleting Folders in FTP Queue

Before you have started the FTP process, you can delete one or more folders awaiting transfer.

To delete one or more folders

1. In the **FTP** dialog, select one or more folders.
2. Select **Delete**.
3. Click **Yes** to confirm the deletion.



PaperFlow Indexes

1. Select the Indexes tab.
2. Check the box of the indexes to be verified during the export.
3. Click OK to save the changes.

Note: Index field not selected will not be verified during the export.

Index Verification

Index verification checks index fields to ensure they meet the configured requirements. Index verification takes place automatically before the export process is started to ensure that the index values meet the configured requirements.

To activate Index Verification

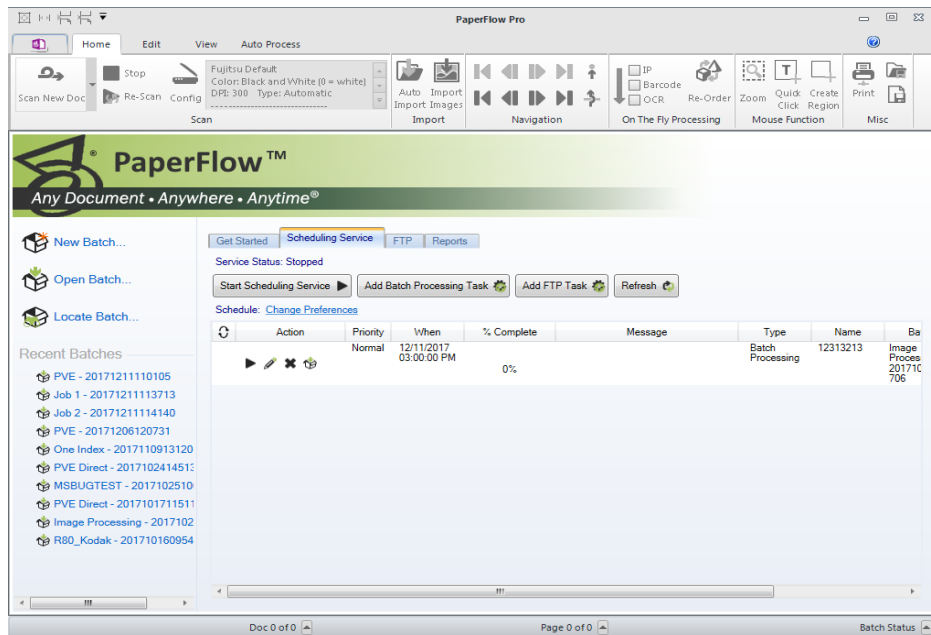
1. Select **Enable Export** in the Export function group.
2. Select **Index Verification**.

Scheduling Service

The Scheduling Service feature enables the user to schedule batch jobs to be processed at a future date and time.

The Scheduling Service Tab

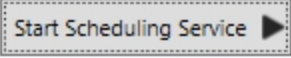
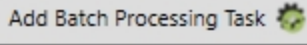
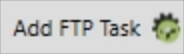
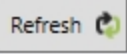
The **Scheduling Service** tab provides quick access to the scheduling service functions: starting and stopping a service, adding a processing task to the batch, and adding an FTP task to the batch.



Scheduling Service Tab





Scheduling Service Buttons

There are 4 buttons on the top of the **Scheduling Service** tab. The buttons provide quick access to common functions of the Scheduling Service.

Button	Description
	Starts and stops the scheduled tasks.
	Opens the Add Batch Processing Task dialog.
	Opens the Add FTP Task dialog.
	Refreshes the Scheduling tab.


Batch Grid Action Buttons

The Batch Grid located on the **Scheduling Service** tab contains buttons that enable the user to perform action on the batch.

Batch Grid Action Buttons	
	Queues up the task to be run.
	Displays the Edit Batch Processing task.
	Deletes the task. Allows changes to be made to the task.
	Opens the selected batch for editing.

Start/Stop Scheduling Service

When the task table on the front of the **Scheduling Service** tab has batches listed in it, click the **Start**

Scheduling  button to start to start the batch . If the **Scheduling** service is running, the button changes to **Stop Scheduling**. Click the **Stop Scheduling Service** button to stop all tasks. Any task that is running when the automation service pauses at its current state.

When a task is running, the action option changes to **Stop Scheduling Service**. An individual task may be stopped by clicking this button.

When the automation process is restarted, it starts from where it was stopped.

Add Batch Processing Task

The **Add Batch Processing Task** button enables the user to add a batch processing task to the scheduling service. The task can be configured to run at a certain time, and for a certain length of time.

The scheduling feature enables the user to schedule batch tasks at times when it is most convenient for the organization. The scheduling feature also allows the user to schedule how much time the processor will be dedicated to processing this batch. For example, when the processor is configured to spend an hour on a

batch and the batch takes longer than an hour, the processing is paused when the hour limit on processing time is reached.

To schedule a batch task

1. From the **Home** screen, select the **Scheduling Service** tab and then click the **Add Batch Processing Task** button. The **Add Batch Processing Task** dialog displays.

Add Batch Processing Task

2. Enter task information.
 - **Task Name:** Optionally enter a name for the task.
 - **Task Description:** Optionally enter a description about the task.
3. From the **Batch** drop-down menu, select a batch to configure.
4. From the **Priority** drop-down menu, select the appropriate priority level for this batch. The levels are listed in order of priority. A batch with a priority level of **Critical** will be processed before a batch with a priority level of **Normal**.
5. Configure the time after which the task will be processed (the default values is the current day on the next hour):
 - **Date:** Select the date on which the task will be processed. Click the arrow on the right of the field and use the calendar drop down widget to select the date.
 - **Time:** Enter the time of day the task will run.

Note: The task will not process until this time has elapsed.

- **Limit Task Processing Time:** Optionally select this option, and then enter the amount of time the processor can spend processing this task.
6. Select the action(s) to process using this task:
 - Skip Processed Documents
 - Image Processing
 - Zonal Barcode
 - Zonal OCR
 - Index Verification
 - Export
 7. Optionally click the **Make Recurring** button to configure the Recurrence Pattern for the Scheduling Service:
 - **Daily** - Select **Daily** and then select how often the task will be run. For example, the task can be set to run every 2 days by selecting the **Every** radio button and entering 2 in the **days** field. To configure the batch to run every weekday, select the **Every Weekday** radio button.
 - **Weekly** - Configure how often the service will be attempted on a weekly basis; for example, enter 1 in the Recur every week(s) on: field and check the Sunday check box to run the batch once a week on Sunday.
 - **Monthly** - Monthly recurrence has two configuration options from which to choose. The first option enables the user to configure the task to run on a numbered day of the month every month, every other month, every third month, etc. For example, to set a batch to run on the 10th day of every 2nd month, select the **Day** radio button, enter **10** in the **of every** field and then enter **2** in the **month(s)** field.

The second option enables the user to schedule the task by the named day of the month. For example, to set the task to run every second Saturday of every 3rd month, select the second radio button, select **Second** from the positional drop-down menu, select **Saturday** from the day of the week drop-down menu, and then enter **3** in the **month(s)** field.
 - **Yearly** - The Yearly option enables the user to schedule tasks on the numbered day of the month during the year or on a named day of the month. For example, the task can be scheduled to run on October 9th or every year on the second Wednesday of every October.
 8. Configure the Range of Recurrence for the Scheduling Service:
 - **No end date** - The task will be attempted every time the configure date and time is reached.
 - **End After** - The recurrence sequence will end after the amount of occurrences entered into the **Occurrences** text box.
 - **End By** - The recurrence sequence will end after the date entered in the End By text box.
 9. Click **OK** to save the configuration.

Add FTP Task

The FTP operation securely transfers your documents, images, and associated index values to an FTP site. FTP settings can be configured in the PaperFlow or ImageSilo/PVE XML export using the custom code generator wizard (**Auto Process page > Wizard > ImageSilo/PVE XML**). You can execute the FTP process from the Auto Process page, PaperFlow Button, or from the Home page using the Scheduling Service tab options.

Add FTP Task

1. Ensure you have configured the required FTP properties for the export.
2. From the **Home** page, select the **Scheduling Service** tab.
3. Click **Add FTP Scheduling Task**
4. Enter **FTP** information:
 - **Task Name:** Optionally enter a name for the FTP task.
 - **Task Description:** Optionally enter a description about the FTP task.
 - **Priority:** Select the priority for this task.
5. Configure the date and time in which the FTP process will run:
 - **Date:** Select the date on which the task will be processed. Click the arrow on the right of the field and use the calendar drop down widget to select the date.
 - **Time:** Enter the time of day the task will be processed.
 - **Limit Task Processing Time:** Select this option and then enter the amount of time the processor can spend processing this task in the **Duration** field.
6. Configure the Error Actions for the FTP task:
 - Skip
 - Remove and Continue
 - Retry - When this option is selected, chose the following:

- a. Check the **Limit Retriess** text box
 - b. In the **Number of Retries** text box, enter the number of retries to be attempted
 - c. In the **After Retries** drop-down menu, selected the action to be performed after the number of retries have been exhausted.
 - Abort
7. Configure the Range of Recurrence:
- **No end date** - The task will be attempted every time the configure date and time is reached.
 - **End After** - The recurrence sequence will end after the amount of occurrences enter into the Occurrences text box.
 - **End By** - The recurrence sequence will end after the date entered in the End By text box.
8. Click **OK** to save the configuration.

Refresh

Refresh refreshes the Scheduling Service table.

Image Processing Configuration

You can define image processing zones that will be processed while you scan documents (on the fly) in the Home page. Alternatively, you can configure image processing filters (to be applied on entire images) in the Auto Process page. Binary image processing includes filters such as border removal, crop, dilation, erosion, halftone removal, hole removal, invert image, line removal, noise removal, scaling, and others. Page deletion filters allow you to specify certain parameters that determine whether pages are retained in a batch. Additionally, you can apply color filters as well as deskew, rotation, and threshold filters. You can configure image processing properties including the file type for colored images, image processing filters, and whether to save processed images. This automated process provides you the flexibility to apply image processing filters on the entire image or within specific zones that you define.

When you configure image processing filters, you can view a side-by-side comparison of the original image alongside the filtered image (click the **Test** button in the toolbar to view the comparison). Thumbnail previews display the document's images and allow you to navigate through the document and perform basic operations including the cut/paste, copy/paste, and delete operations.

You can assign the page ranges that will be applied to each filter in the IP Filter grid (click the **Show Advanced Configuration** link in the toolbar to view the grid). Within this grid, you can also see what filters are applied to specific page ranges (**Apply** and **Page Range** columns). In addition, you can view the dimensions (in millimeters) of each image processing zone that you have applied. For information on each filter's specific properties, see the [Image Processing Filters](#) topic.

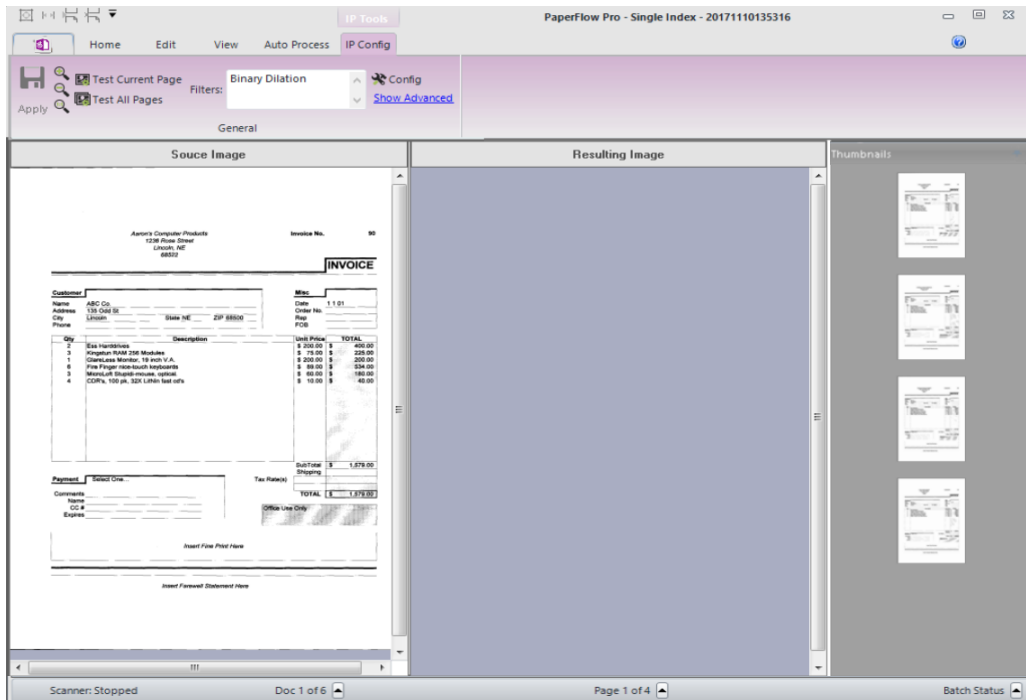


Image Processing Configuration Page

Note: Incoming color images can have maximum dimensions of 10,000 x 10,000 pixels when they are processed through the application. Bitonal (black and white) images can have slightly larger dimensions. Larger images can be ingested into PaperFlow provided that no OCR will be performed on the images; no image processing will be performed on the images; or, images will not viewed as thumbnails.

Configuring Image Processing Filters

You can configure, preview, and test image processing filters before processing the batch. Zooming operations are available if you need to adjust the image. When you select the Show Advanced link, the IP Filters grid opens, and you can also draw and configure IP zones for certain binary filters.

Image Processing Configuration Page

The Image Processing Configuration page contains the following components:

- The **Source Image** window displays the original, unfiltered image.
- The **Resulting Image** window displays the filtered image, after you test the image.
- The **IP Filters** grid (select Show Advanced Configuration to see the grid) displays all page ranges and configured filters for each page range. The dockable **IP Filters** grid allows you to select the page range and apply image processing filters to specific pages or zones. Select the **Page Range** from the drop-down list (all, odd, even, or last). Or, enter the page range (e.g., 1; 1-5, 4; 1-7, etc.).

	Apply	Page Range	Zone (mm) [Left, Top, Width, Height]	Filters
▶		All		Binary Hole Removal, Binary Noise Removal, Crop, ...
*				

IP Filters Grid

To configure IP filters

1. In the IP Config page, click **Config**. The **Image Processing Filters** dialog appears. Filters supported in zones are marked with asterisks (*).

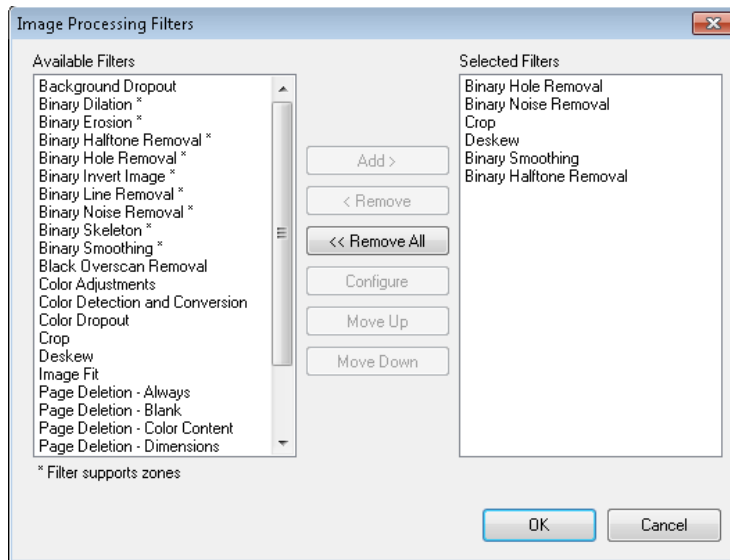


Image Processing Filters

2. From the **Available Filters** list, highlight the filter, and then click **Add**.
3. To configure a selected filter, highlight the filter in the **Selected Filters** list, and then click **Configure**.
 - To remove a filter from the **Selected Filters** list, highlight the filter, and then select the **Remove** button.
 - To remove all filters from the **Selected Filters** list, click the **Remove All** button.
 - To move a filter up or down in the **Selected Filter** list, highlight the filter, and then select **Move Up** or **Move Down**.

Note: See the [Image Processing Filters](#) topic for descriptions of each filter.

4. Click **OK** after you have configured all filters.
5. After you have configured all IP filters, click **Apply** to save the filter settings.
6. To close and exit out of the IP Configuration page, click the **Auto Process** tab.

Removing and Reordering Filters

You can reorder a filter so that it will be processed before the other selected filters.

To remove a filter from the Selected Filter list

1. Highlight the filter(s).
2. Click **Remove**.
3. To remove all filters, click **Remove All**.

To reorder the filters

1. Highlight the filter(s).
2. Click **Move Up** or **Move Down**.
3. Click **OK**.

Drawing Image Processing Zones

You can apply certain binary image processing filters to zones within bitonal images. For example, you may want to apply the Binary Hole Removal filter only to the left two inches of a bitonal image or the Binary Invert Image to expose a specific area of a bitonal image. During IP configuration, you can use the Draw IP Zone operation to draw a zone on the image. The following binary IP filters can be applied to zones that you define on the image:

- Binary Dilation
- Binary Erosion
- Binary Halftone Removal
- Binary Hole Removal
- Binary Invert Image
- Binary Line Removal
- Binary Noise Removal
- Binary Skeleton
- Binary Smoothing
- Binary Scaling

Note: Descriptions for each filter can be found in the [Image Processing Filters](#) topic.

To draw IP zones

1. In the IP Config page, click Show Advanced in the toolbar.
2. To equip the cursor to draw a zone on the source image, click **Draw IP Zone**.
3. Drag the crosshair cursor around the zone on the image.
4. Adjust the zone borders if necessary.
5. In the IP Filters window, click the ellipsis button next to the **Filters** property in the first row. The **Image Processing Filters** dialog appears.

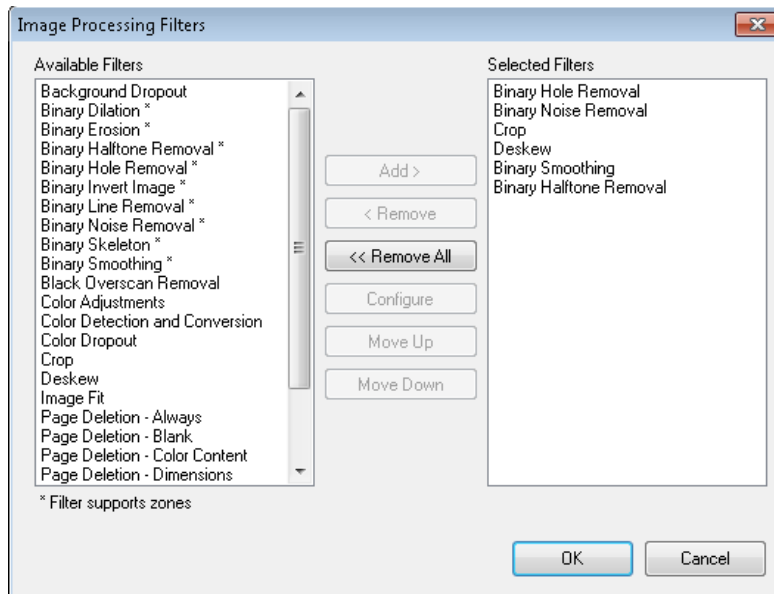


Image Processing Filters

6. The dockable **IP Filters** grid allows you to select the page range and image processing filters. If an image processing zone is configured, its dimensions (in mm) appear in the **Zone** column. Select from the **Page Range** column drop-down list (all, odd, even, or last), or enter the page range (e.g., 1; 1-5, 4; 1-7; etc.).
7. Filters supported in zones are marked with asterisks (*). From the **Available Filters** list, highlight the filter, and then click **Add**.
8. To configure a filter, highlight the filter in the **Selected Filters** list, and then click **Configure**.
9. Click **OK** after you have configured the filters. The **IP Config** screen appears once again, where you can test the zone to ensure the filters work correctly. See the next section on **Testing Image Processing Filters** for more information.
10. Click **Apply** to save the IP filter settings.

To move an IP zone

1. Select the center of the zone until the cursor turns into a four sided arrow.
2. Move the zone to the appropriate location on the image.
3. Click **Apply**.

To remove an IP zone

1. Select the zone.
2. Click **Remove IP Zone**.
3. Click **Apply**.

Testing Image Processing Filters

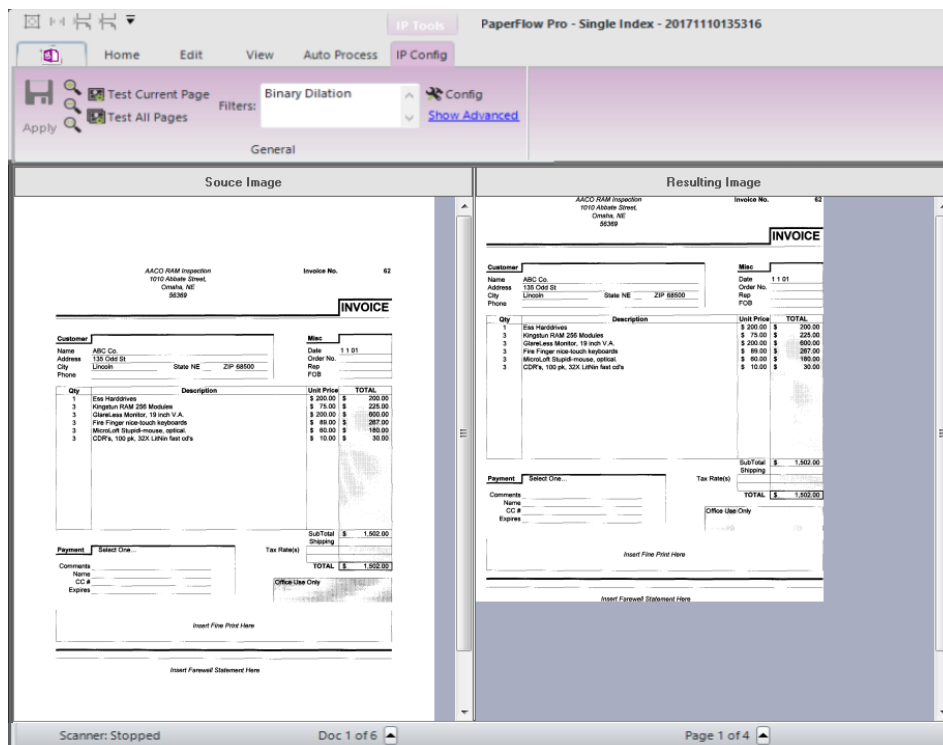
You can test and preview individual or all IP filters that are applied to pages in the document.

To test image processing filters for the current page

1. After configuring the filters for a page, click **Test Current Page**. The filtered image appears in the **Resulting Image** window.
2. If the filter is acceptable, click **Apply**.

To test image processing filters for all pages

1. After configuring the filters for all pages, click **Test All Pages**.
2. Navigate through the document to ensure the filters are acceptable, and adjust them if necessary.
3. If filters for all pages appear acceptable, click **Apply**.



IP Configuration - Test Current Page

Zooming Operations

- To zoom in on the image, click **Zoom In**.
- To zoom out of the image, click **Zoom Out**.
- To reset the view of the image, click **Zoom Reset**.

Image Processing Filters

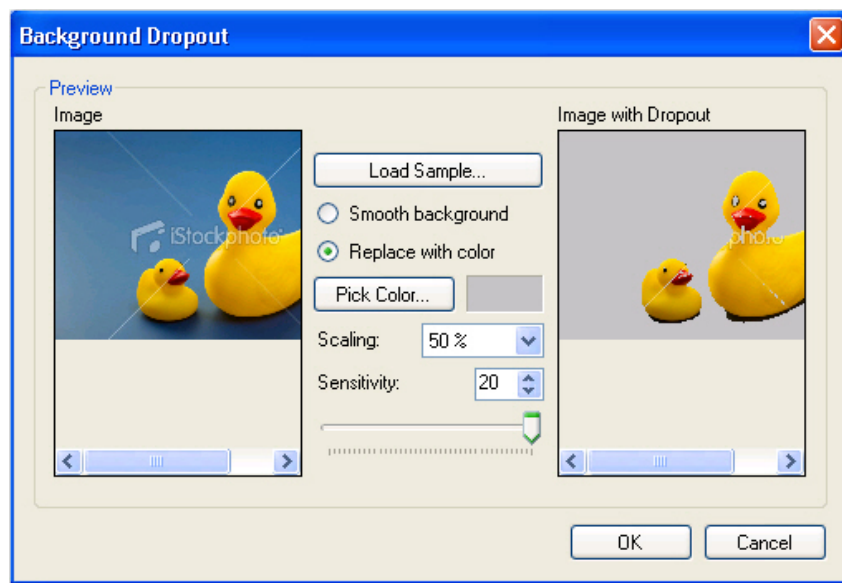
Image Processing filters improve image quality by removing unnecessary borders, lines, and noise; enhancing text readability; and reducing file size. Additional image processing filters evaluate images, and

then keep or discard them based on your defined criteria. Color detection filters identify your specified colors and convert the image to black and white or remove the page containing the color image. Binary filters can only be applied to bitonal (1 bit per pixel) images; color and gray scale are ignored.

The following processing filters can be applied to images:

Background Dropout

This filter is intended to be used on color images with contrasting text or a uniform background of the same color or similar colors. The background is a set of pixels of the same or similar color that covers the majority of the image, contrasting with other informative pixels. Background detection is based on the image histograms of red, green, and blue (RGB) channels. Only the margins of the image are used for histogram analysis, assuming that margins are free from any information and clearly represent the background of the image.



Background Dropout

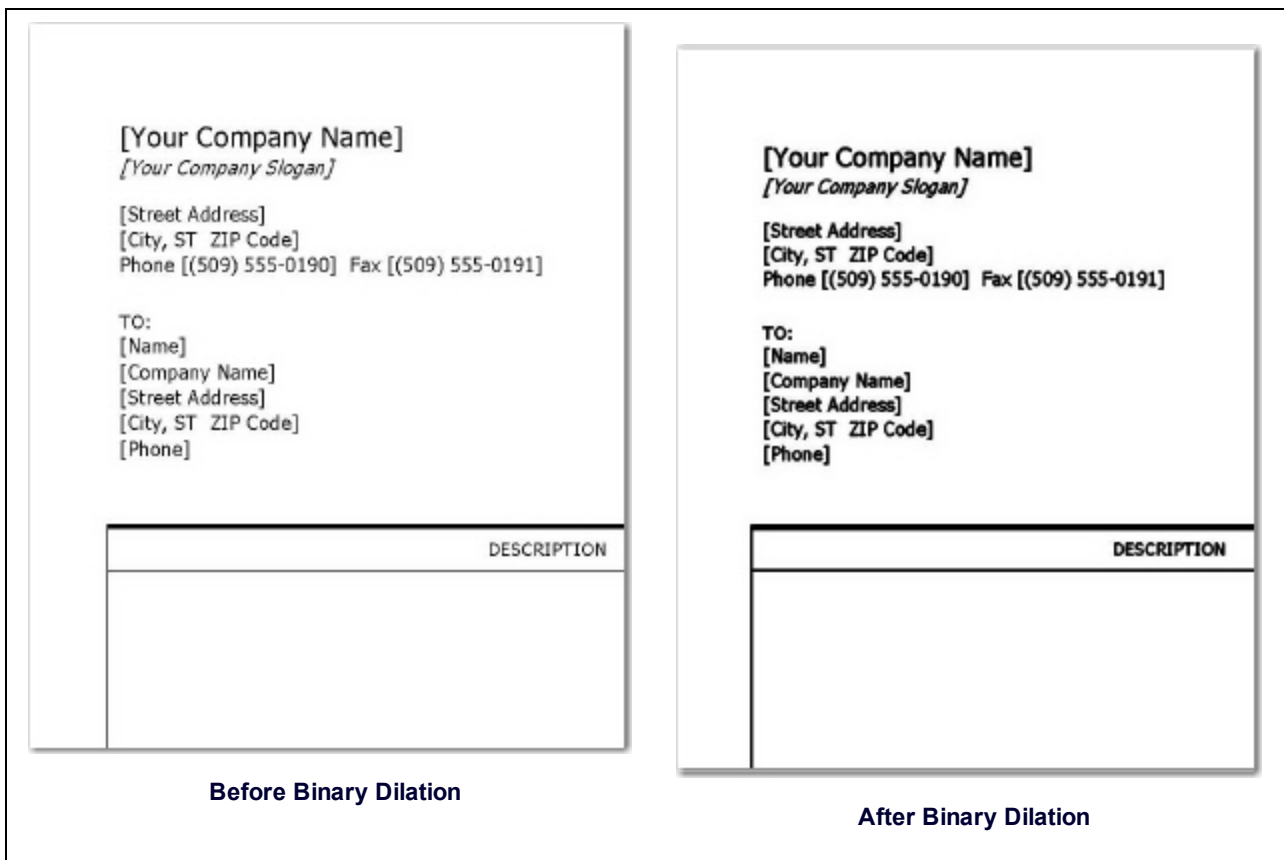
To load a sample image and apply the Color Dropout filter

1. Click the **Load Sample** button.
2. Browse to the directory, and then select the image.
3. Click **Open**. The image appears in the **Image** window on the left.
 - To zoom in/out on the image, select a larger/smaller percentage in the **Scaling** drop-down list.
 - To smooth the background color and make it appear more uniform, select **Smooth background**. The results appear in the **Image with Dropouts** window, so proceed to step 8.
 - Or, select **Replace with color** to replace the background color with your selected color. Proceed to the next step
4. Click the **Pick Color** button. The selected color appears next to the **Pick Color** button.

5. To apply a more noticeable background dropout, do the following:
 - Move the **Sensitivity** slider to the right, and the value increases
 - Move the **Sensitivity** slider to the left, and the value decreases.
 - OR enter a value between -20 and 20.
6. When you are satisfied with the results of the background dropout, select **OK**.

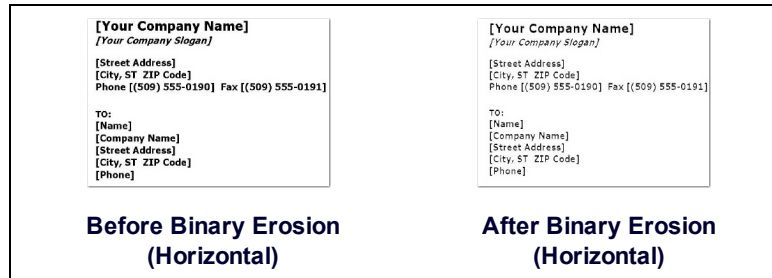
Binary Dilation

Binary Dilation expands a black area of an image using your specified direction (horizontal, vertical, and/or diagonal) and number of times (passes) to apply the dilation. This filter can improve text legibility, but can increase file size.



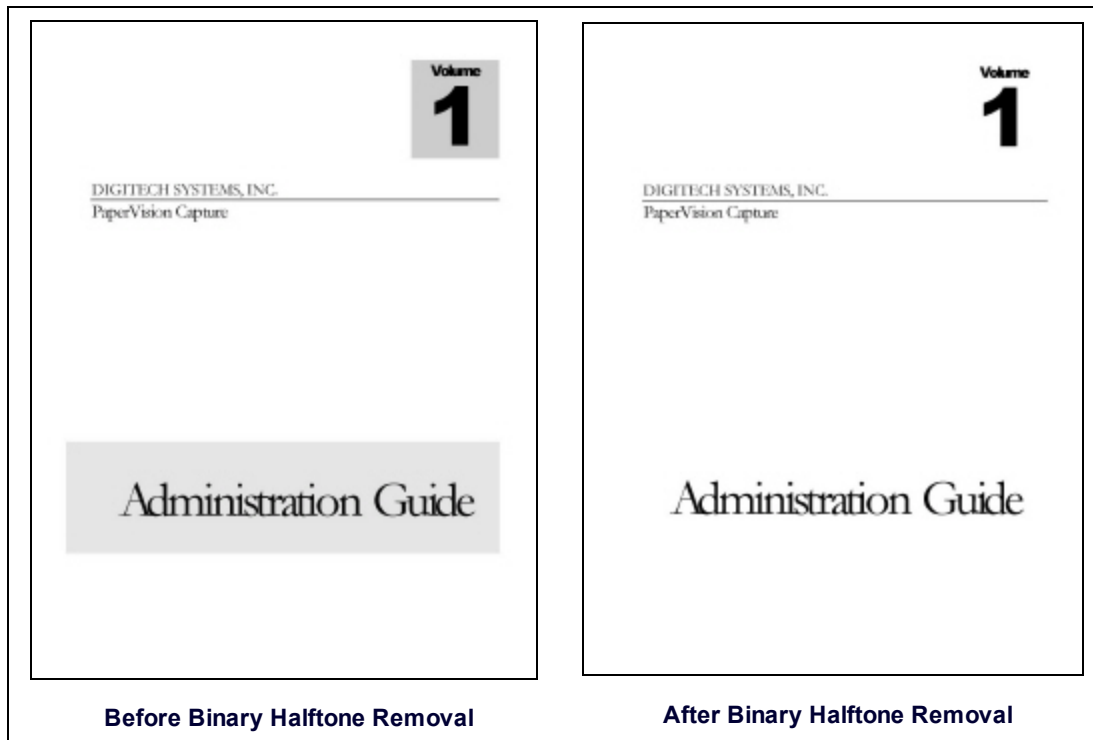
Binary Erosion

Binary Erosion trims an area of a black image using your specified direction (horizontal, vertical, and/or diagonal) and number of times (passes) to apply the dilation. This filter can reduce file size but causes a loss of detail in the image.



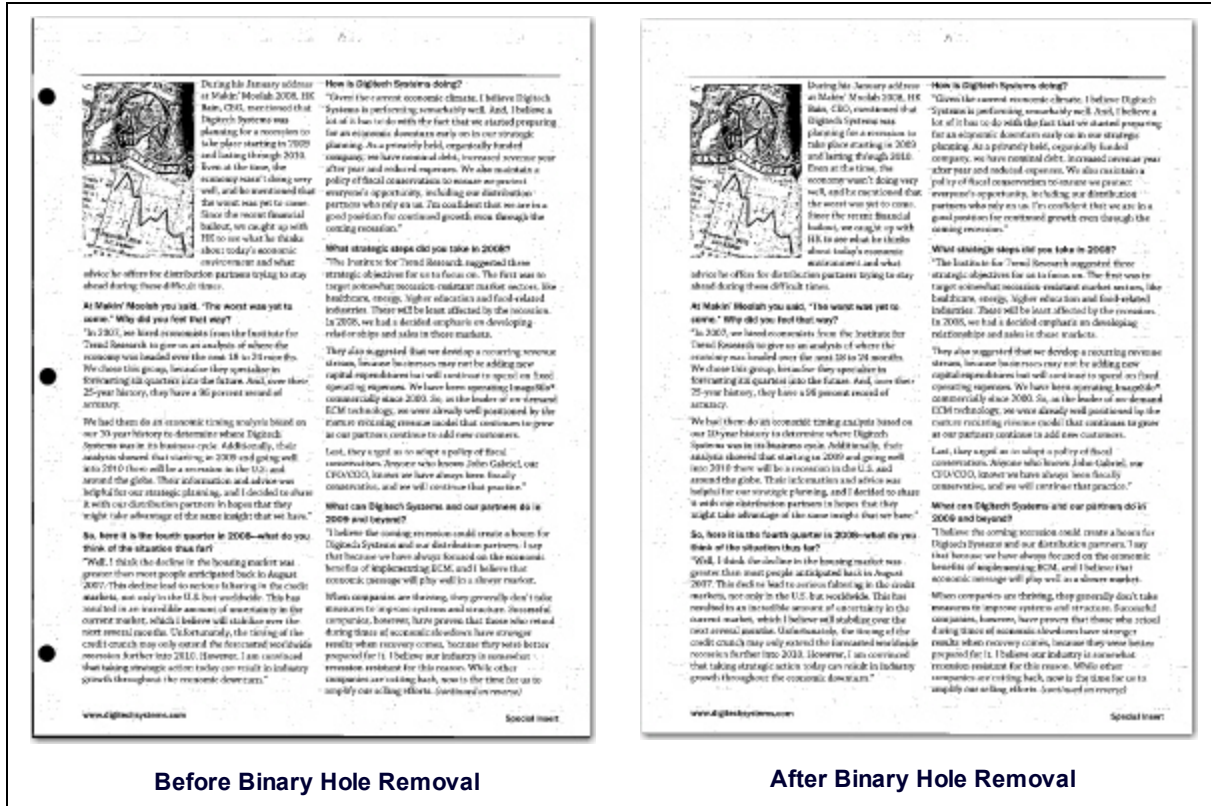
Binary Halftone Removal

The Binary Halftone Removal filter removes the background, such as a halftone or dither pattern, from an image.



Binary Hole Removal

The Binary Hole Removal filter identifies objects that look like binder hole punches near the edge of the image, and then deletes those objects. Objects that appear like binder hole punches that are visible in other areas of the image, such as the center, will not be removed.

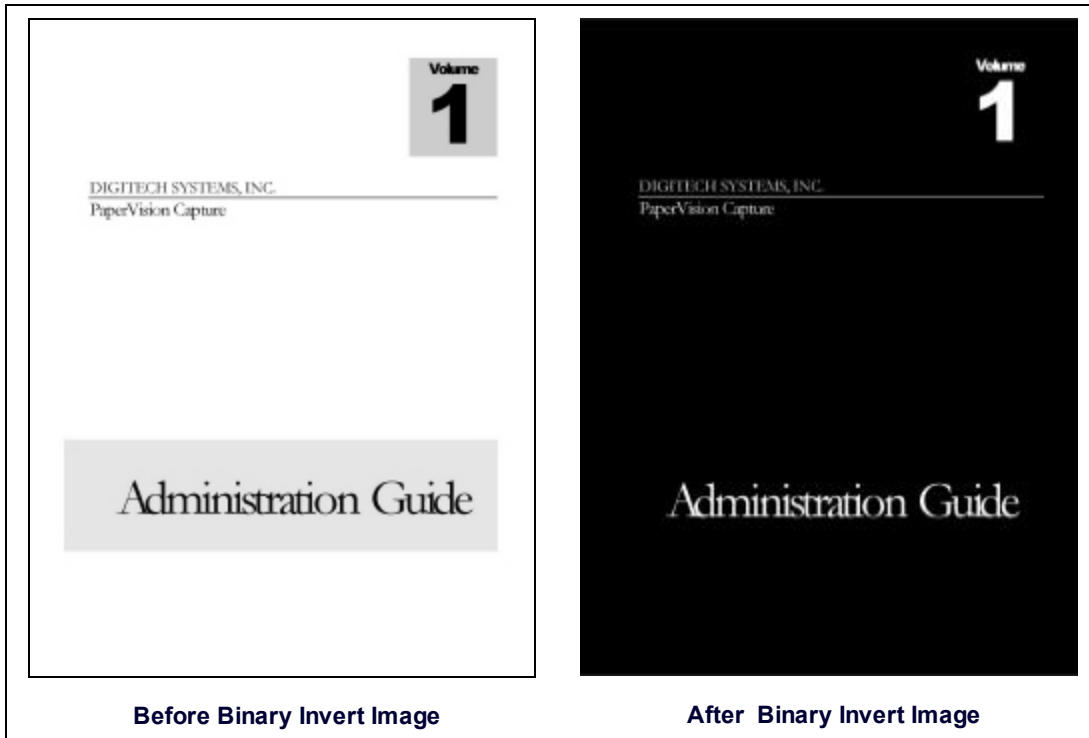


Before Binary Hole Removal

After Binary Hole Removal

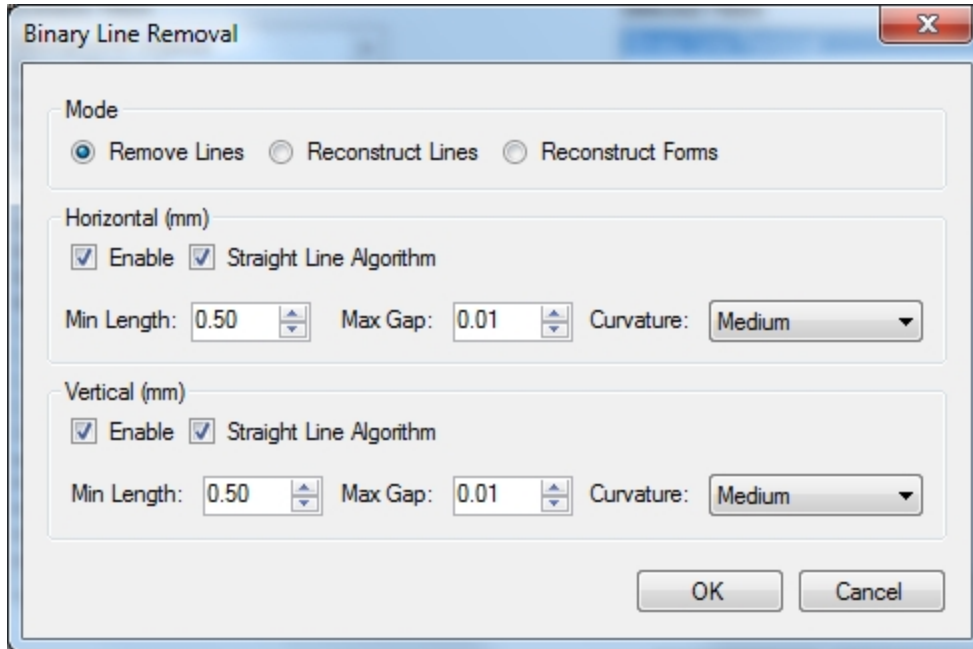
Binary Invert Image

This filter reverses the polarity of the image. Black pixels become white pixels, and white pixels become black pixels.



Binary Line Removal

Binary Line Removal deletes lines or reconstructs lines on a form-based image. Removing lines can reduce file size and improve OCR results.



Binary Line Removal

Mode - This setting specifies the type of line correction to perform on the page.

- **Remove Lines** takes out all objects considered as lines.
- **Reconstruct Lines** removes lines, repairs overlapped graphics and text, and redraws straight lines in place of removed lines.
- **Reconstructs Forms** removes lines, redraws straight lines, and reconnects lines that were previously connected. This type of line correction is commonly used for tables and forms.

Horizontal Line Removal - Select **Enable** to detect horizontal lines that will be taken out during the line removal process.

Straight Line Algorithm - Select this setting to provide faster processing of straight lines that are longer than 100 pixels (suitable for forms and light paper). This filter evaluates the height or width of the bounding rectangles around line-like objects to determine if the object is a line. If this setting is not used, the filter breaks the line-like object into small segments and uses the minimum length, curvature, and maximum gap to determine whether the segments comprise a line.

Minimum Length - Enter the minimum length in millimeters (in whole or decimal numbers) that the filter will detect as a horizontal line.

Maximum Gap - Enter the maximum amount of allowable white space in millimeters (in whole or decimal numbers) between two horizontal line-like objects to consider as one line.

Curvature - Enter the maximum allowable amount of deviation from a straight line for a horizontal line-like object to be considered a line.

- **Straight** contains a curvature value of 5.
- **Low** contains a value of 15.
- **Medium** contains a value of 30.
- **High** contains a value of 40.

Vertical Line Removal - Select **Enable** to detect vertical lines that will be taken out during Line Removal.

Minimum Length - Enter the minimum length in millimeters (in whole or decimal numbers) that the filter will detect as a vertical line.

Maximum Gap - Enter the maximum amount of allowable white space in millimeters (in whole or decimal numbers) between two vertical line-like objects to consider as one line.

Curvature - Enter the maximum allowable amount of deviation from a straight line for a vertical line-like object to be considered a line.

INVOICE			
Date: December 1, 2008		INVOICE # (156)	
Company Name:		Phone:	
Street Address:		Street Address:	
City, St, Zip Code:		City, St, Zip Code:	
Phone:		Phone:	
Customer ID (JAN11348)		Customer ID (JAN11348)	
Salesperson	Job	Payment Terms	Due Date
Line # 000001			
Qty	Description	Unit Price	Line Total

Before Binary Line Removal

INVOICE			
Date: December 1, 2008		INVOICE # (156)	
Company Name:		Phone:	
Street Address:		Street Address:	
City, St, Zip Code:		City, St, Zip Code:	
Phone:		Phone:	
Customer ID (JAN11348)		Customer ID (JAN11348)	
Salesperson	Job	Payment Terms	Due Date
Line # 000001			
Qty	Description	Unit Price	Line Total

After Binary Line Removal

Binary Noise Removal

Noise can originate from carbon or dirt particles found on scanners, fax machines, or copiers. Noise removal takes out extraneous specks from an image. If the image contains text, this filter may remove periods and dots from sentences and letters. To avoid removing essential parts of text characters, assign the **Minimum Separation** value to be greater than the distance between dots and the lower parts of letters. To apply cropping and noise removal to an image, perform the noise removal first for best results.

Maximum Height and Width - Enter the maximum height/width in millimeters (in whole or decimal numbers) of an object to be considered as noise.

Maximum Area Percentage - This value is defined by your specified height/width of an object to be removed as noise. Enter the Maximum Area Percentage to detect long narrow objects such as lines, decorative banners, and highlight areas that may appear both vertically and horizontally on a page.

For example, to remove colored banners with the dimensions 5" x 1" or 1" x 5", assign the Maximum Height and Width values to five inches. However, a 5" x 5" picture would also be detected as noise and removed. To avoid this problem, set the Maximum Area Percentage to 20% so that only the banner area is detected as noise, regardless of its orientation.

Minimum Separation - This is the minimum distance (in millimeters) that separates noisy areas from other (non-noisy) areas of the page. A value of zero removes all noisy objects within your specified values in the **Maximum Height/Width/Area Percentage** fields. Assigning a zero value may remove text elements, such

as broken characters, periods, and dots above letters. Assigning a value greater than zero preserves noise-like objects near text characters and may improve OCR accuracy.



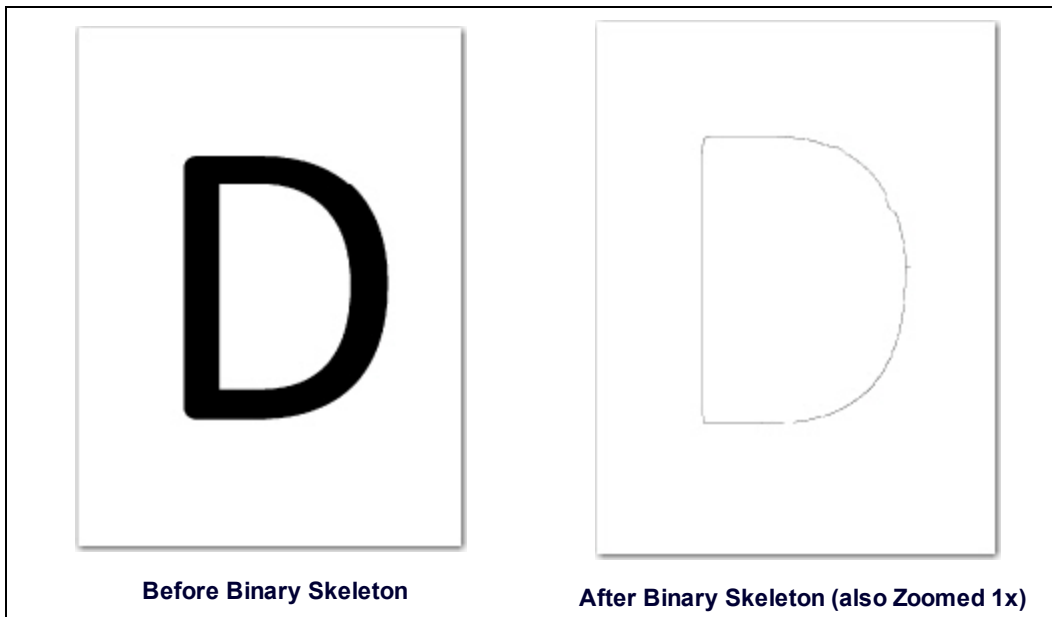
Before Binary Noise Removal



After Binary Noise Removal

Binary Skeleton

The Skeleton filter should be used with caution, since it can significantly distort the image. This filter can reduce the file size, and is recommended only to use when performing certain types of OCR.



Before Binary Skeleton

After Binary Skeleton (also Zoomed 1x)

Binary Smoothing

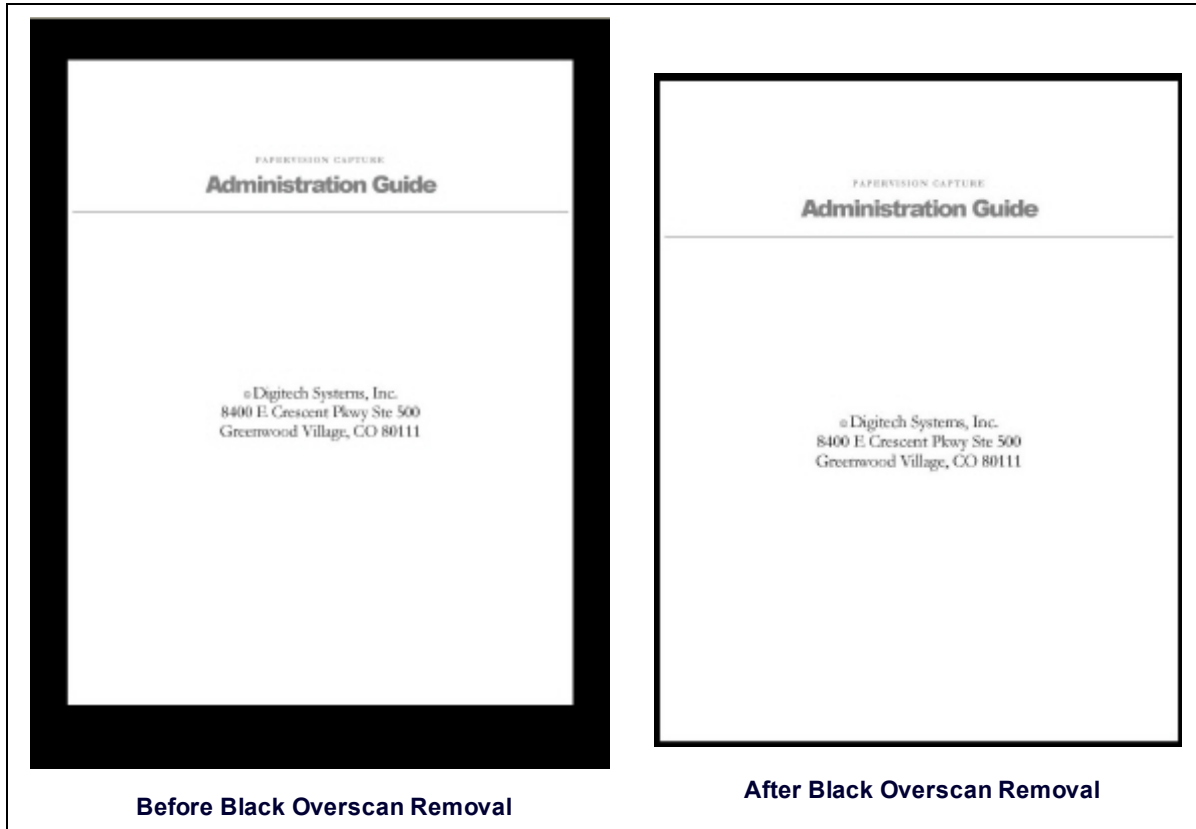
Smoothing removes bumps that appear on text characters or graphics in an image. The smoothing filter looks for any pixel surrounded by five or six connected pixels of the opposite color, and then inverts that center pixel based on the filter's configuration. Smoothing improves legibility and can reduce file size without compromising detail.

- **Trim First** removes black noise pixels before white noise pixels. If this option is not enabled, white noise pixels are removed before black noise pixels.
- **Corner Black** removes black noise pixels from the corners of objects in the image.
- **Corner White** removes white noise pixels from the corners of objects in the image.

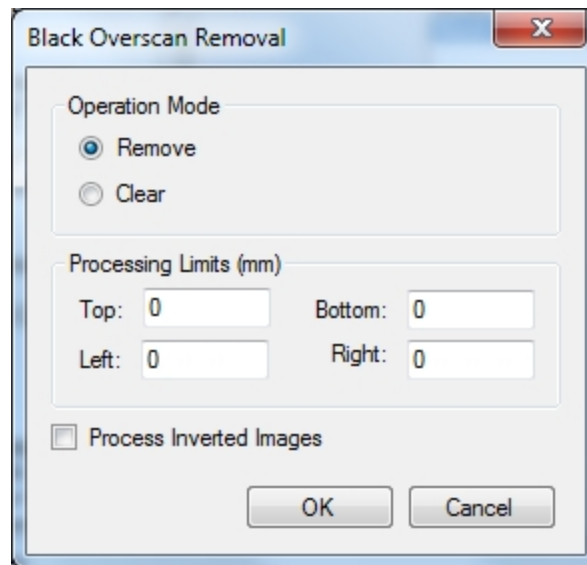


Black Overscan Removal

The Black Overscan Removal filter deletes the black overscan area that appears around an image produced by scanners with black borders. This filter reduces the image file size. To maximize results, apply the Deskew filter with a black fill color prior to applying Black Overscan Removal.



1. Click the **Configure** button. The **Black Overscan** window displays.



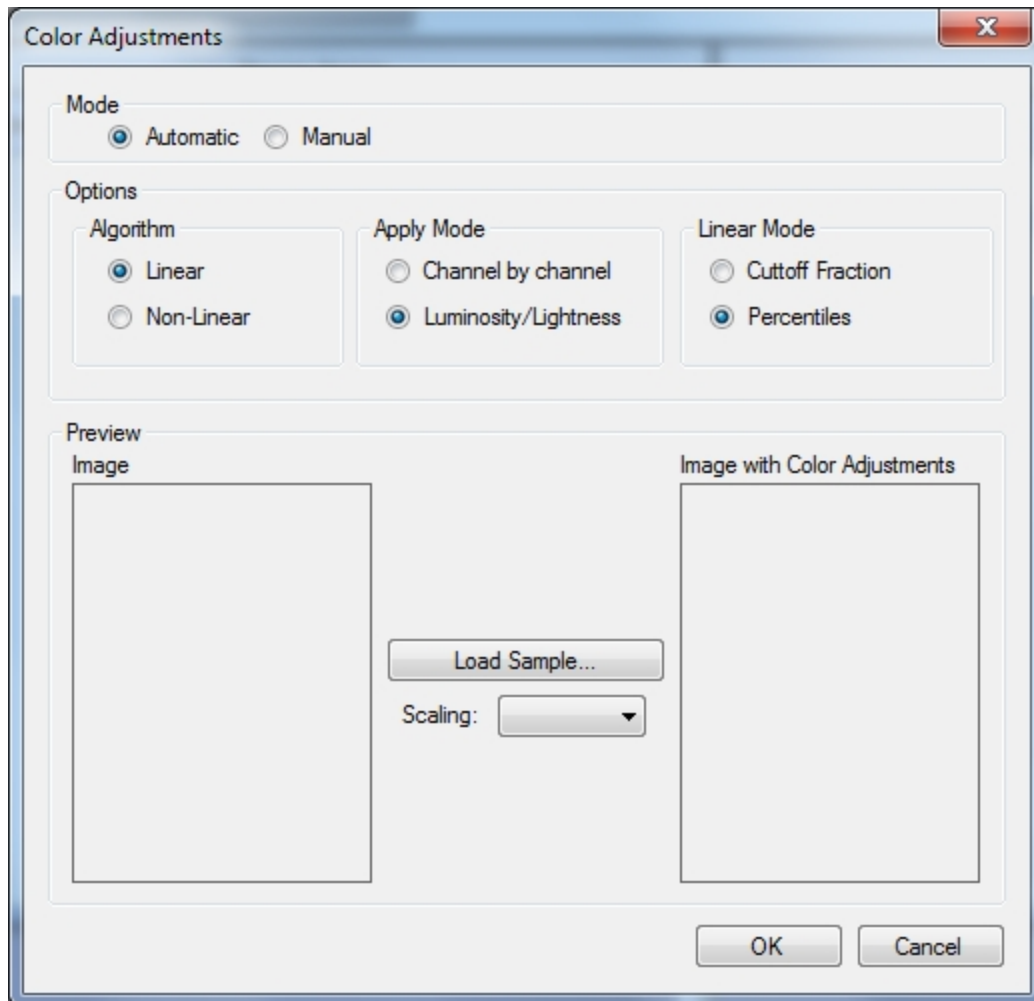
Black Overscan removal window.

2. Configure the overscan using the following features:
 - **Remove** - Select this options have the overscan removed
 - **Clear** - Select this option to have the overscan cleared
 - **Top** - Enter, in (mm) the top of the overscan area.
 - **Left** - Enter in (mm) the left edge of the overscan area
 - **Bottom** - Enter in (mm) the bottom of the overscan area
 - **Right** - Enter in (mm) the right edge of the of the overscan area.
 - **Process Inverted Image** - Select this option to have inverted images processed.
3. Click **OK** to save the changes.

Color Adjustments

There are two modes to choose from within the Color Adjustments window. Select a mode to use and then configure the color adjustment to your needs.

Automatic Mode



Color Adjustments - Automatic

In the Automatic mode the following options are available:

Algorithm

1. **Linear** - Uses the liner algorithm to adjust the colors
2. **Non-Linear** - Use the non-linear algorithm to adjust the color.

Apply Mode

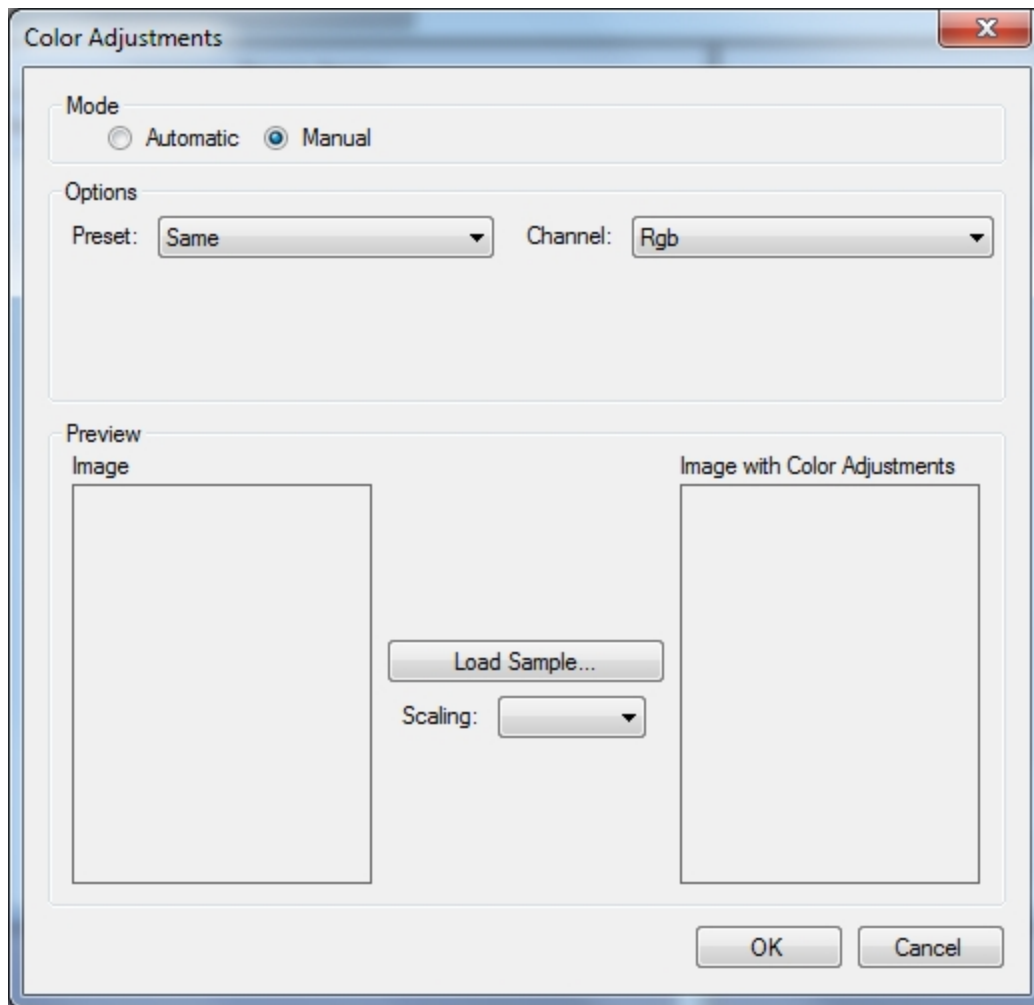
1. **Channel by channel** - applies the color adjustments to the color channels
2. **Luminosity/Lightness** - applies the color adjustments according the brightness of the image

Linear Mode

1. **Cutoff Fraction** - Select this options to use fractions in the color adjustment algorithm.
2. **Percentiles** - Select this options to use percentiles in the color adjustment algorithm.
3. **Load Sample** - Click this option to navigate to an image to use as a sample when configuring the color adjustment settings.

Manual Mode

Manual Mode provides more fine-tuned options for color adjustments.



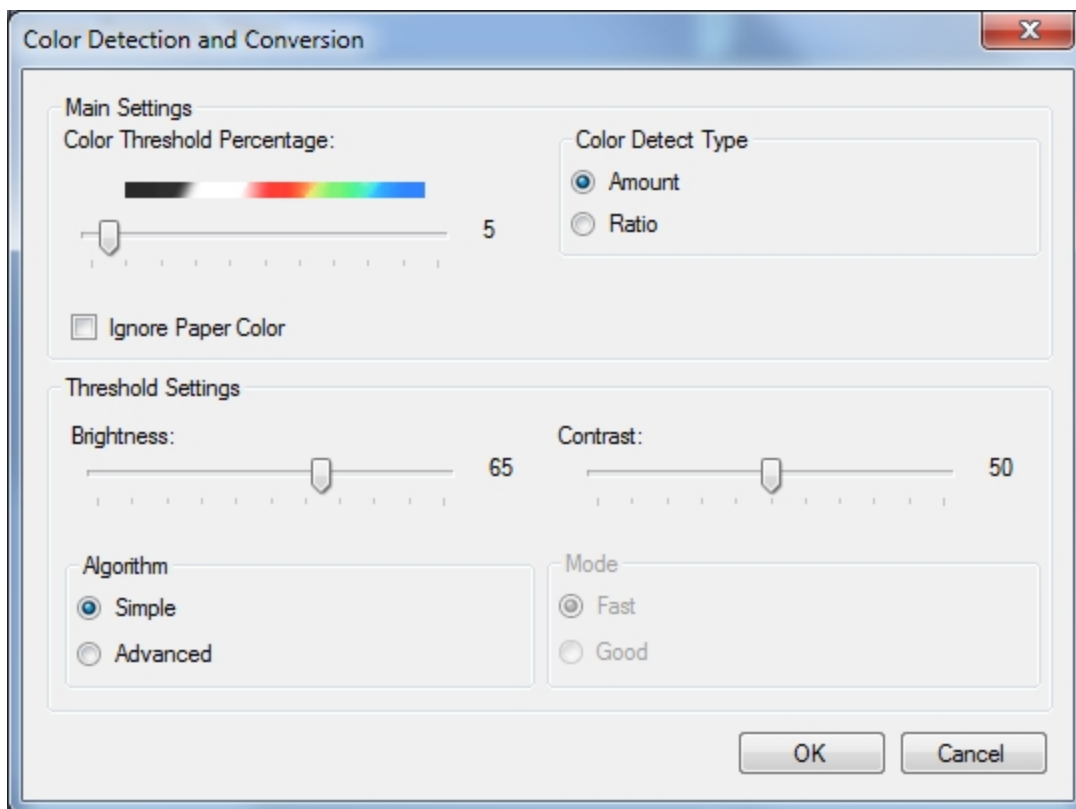
Color Adjustments - Manual

1. Select the Presets for the color adjustments.
 - **Linear** - Uses the liner algorithm to adjust the colors
 - **Invert** - Invert the colors in the image
 - **Lighten** - Lightens the selected color in the image

- **Darken** - Darken the selected color in the image
 - **Contrast** - Adjusts the contrast of the image
2. Select the color channels for adjustments.
 - **Rgb** - Adjusts all three color channels
 - **Red** - Adjusts the red color channel
 - **Green** - Adjusts the green color channel
 - **Blue** - Adjusts the blue e color channel
 3. Click the **Load Sample** button and navigate to the image to be used as sample to test your color adjustments.
 4. Optionally set the scaling percentage to view the entire image or just sections of it.
 5. When you have completed your adjustment, click **OK** to save to the changes.

Color Detection and Conversion

This filter detects the colorfulness of an image, and then returns either a binary or a color image based on your assigned threshold settings. Enable **Ignore Paper Color** to change the paper's background to white. The filter then counts the number of white (and nearly-white) and black (and nearly-black) pixels and excludes them from the color count. The colorfulness of the image is then computed according to your selected Color Detect Type. If the resulting colorfulness value is less than your assigned threshold, the resulting image displays as binary (black and white).



Color Detection and Conversion

Note: If the original image is more colorful than your specified threshold, the filter is not applied.

Color Threshold Percentage - Use the slider to assign the amount of color that an image must contain in order to be considered colorful. Select **Ignore Paper Color** to change the image background color to white before performing automatic color detection.

Color Detect Type - Select **Amount** to detect the number of color pixels in the image (default setting). Select **Ratio** to detect the ratio of color and black pixels in the image.

Ignore Paper Color - Select this option to have PaperFlow ignore the paper color of the image.

Brightness - Brightness defines a pixel's lightness value from black (darkest) to white (brightest). Move the slider to assign the amount of brightness to apply to binary images.

Contrast - Contrast is a measure of the rate of change of brightness in an image. A high-contrast image contains defined transitions from black to white. Move the slider to assign the amount of contrast for binary images.

Algorithm

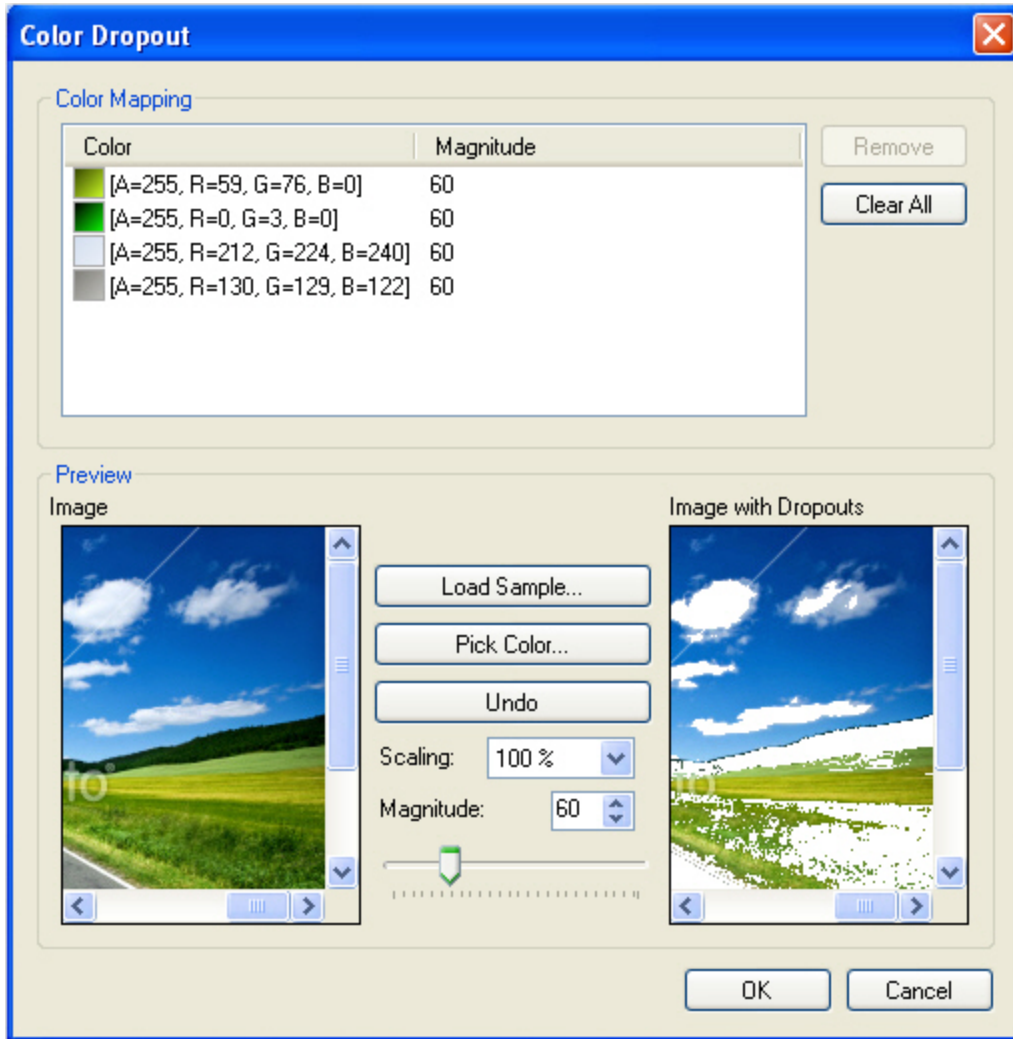
- **Simple** - causes thresholding to process quickly, and results in quality images.
- **Advanced** - Enables the **Mode** section of the Color Detection and Conversion window.

Mode - Select Fast or Good quality to be applied to binary images.

- **Fast** causes thresholding to process quickly, and results in quality images.
- **Good** causes thresholding to process more slowly, but results in better quality images.

Color Dropout

The Color Dropout filter removes your specified colors from the image, and then displays the scanned image without your specified colors. Default Scaling and Magnitude settings are shown below.



Color Dropout

To load a sample image and apply the Color Dropout filter

1. Click **Load Sample Image**.
2. Browse to the directory.
3. Select the image.
4. Click **Open**.
 - To select the color to delete from the image, click the **Pick Color** button
 - To undo the most recent color selections (since the last time you clicked **OK**), click the **Undo** button.

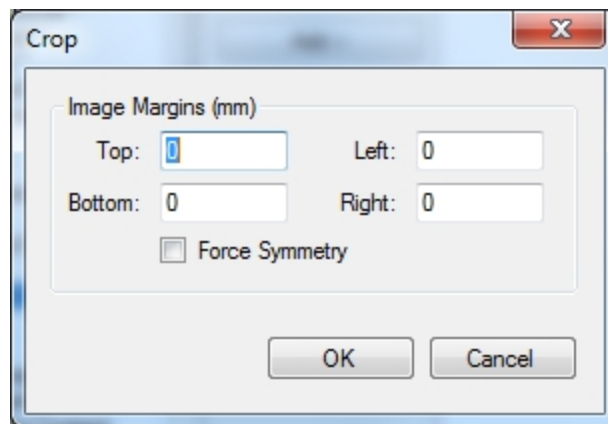
Note: If the colors are not being restored, highlight the color in the **Color Mapping** section, and then click the **Remove** button on top.

- To zoom in on the image, select a larger percentage in the **Scaling** drop-down list.
 - To apply a larger magnitude to the color dropout filter, enter a value between 1-255 or, move the slider to see the effect on the image. A larger magnitude value results in the removal of more adjoining colors to your selected color.
5. Point the cursor over the color to extract, and then click on the color. The selected color appears in the **Color Mapping** list on top, along with its RGB color codes.
 6. Click the **Remove** button to remove the color from the dropout list.

Select **Clear All** to remove all colors from the dropout list.

Crop

Cropping allows you to assign margins in millimeters (in whole or decimal numbers) to remove white space from the edge of the image. You can set different values for each margin.



Crop

Image Margins - Positive margin values represent the white space between the edge of the image and the black pixel closest to that edge. Negative margin values crop the specified amount from the black pixel closest to the edge towards the center of the image. Enter values in the Top, Bottom, Left, and Right fields to assign the margins.

Force Symmetry - Select Force Symmetry to assign the same values to opposite margins. Enter a value in the Top field to apply the same value to the top and bottom margins. Enter a value in the Left field to apply the same value to the left and right margins.

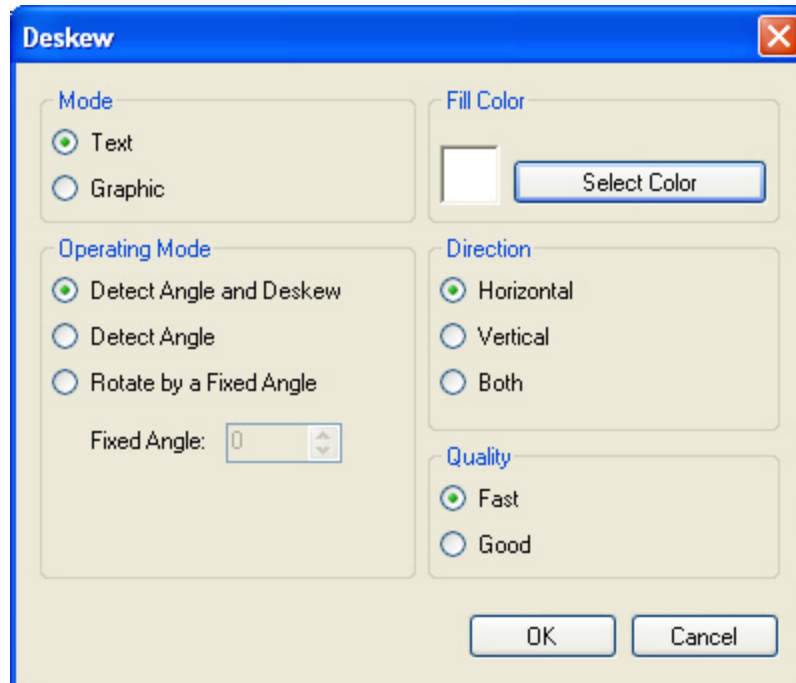
Note: If you enter values for the **Bottom** or **Right** fields they are ignored.

Deskew

Skewing can occur when the original document was fed into the scanner, fax machine, or photocopier. This filter examines the image and determines the skew angle, which is measured between the edge of the image

and the horizontal or vertical axis. The filter straightens images that slant from their correct orientation.

You can rotate an image from -44.9 degrees to +44.9 degrees, in 0.1 degree increments, without detecting a skew angle. You can adjust the values most suitable for your documents. Applying this filter results in a binary (black and white) image.



Deskew

Mode - The mode indicates whether text or graphics will be used to determine the skew angle.

- Select **Text** if pages primarily contain text with some tables and lines.
- Select **Graphics** if pages contain large blocks of black areas.

Operating Mode

- The default setting, **Detect Angle and Deskew**, automatically examines the images and determines the skew angles.
- **Detect Angle** deskews the images by a fixed number of degrees.
- **Rotate by a Fixed Angle** rotates the image by your specified fixed angle.

Fill Color - You can assign a fill color of black or white (default), which can match the color in the overscan area of the image. If the image contains a border, you can assign the fill color to match the border after the image is deskewed.

Direction - This setting indicates the image's skew angle measurement direction.

- Select **Horizontal** if only horizontal text exists in the documents
- Select **Vertical** if only vertical text exists in the documents.
- Select **Both** if either text orientation may exist in the documents.

Quality - This setting specifies the quality and speed of the deskew process.

- **Fast** causes deskewing to process quickly, and results in quality images.
- **Good** causes deskewing to process more slowly, but results in better quality images.

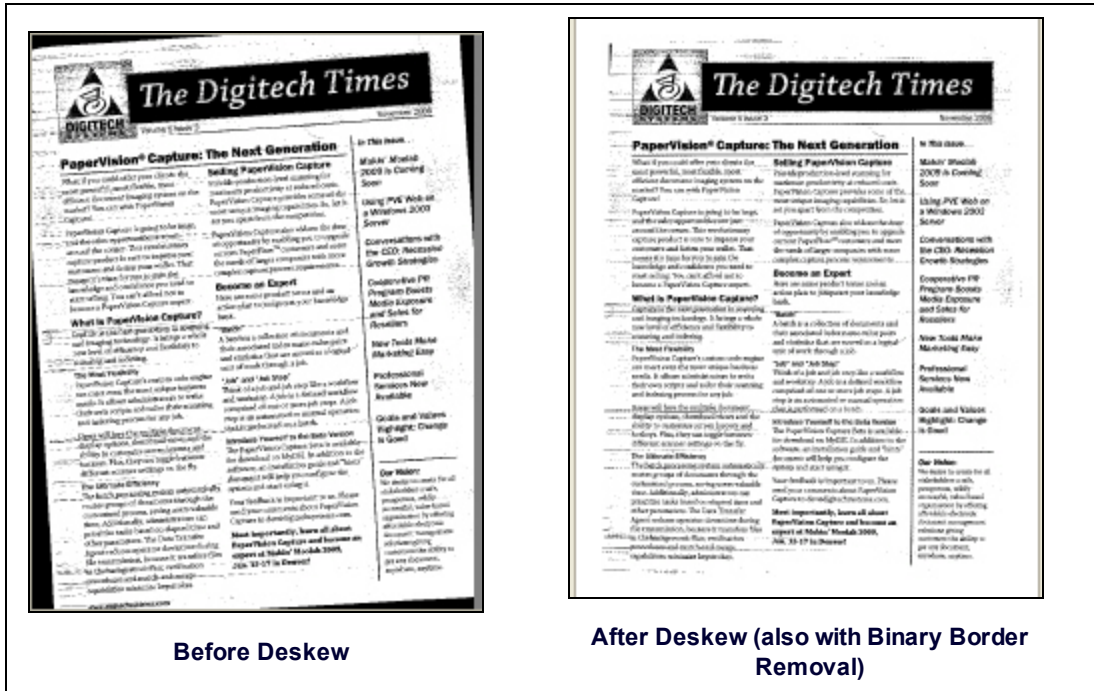


Image Fit

This filter is intended to crop images before they are processed through the Open Text Full-Text OCR engine. The minimum and maximum width and height dimensions that can be specified are 16 x 16 to 8400 x 8400 pixels. If the image size is less than 16 x 16 pixels, white space will be added to the image from the bottom and right corners until the minimum size (16 x 16 pixels) is reached. If the image size is greater than 8400 x 8400 pixels, the image is cropped from the bottom and right corners until the maximum size is reached.

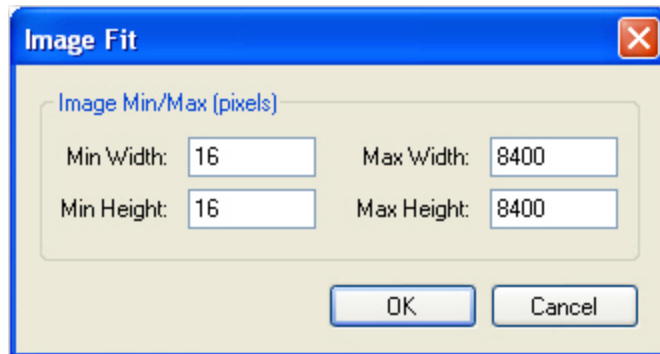


Image Fit

Page Deletion - Always

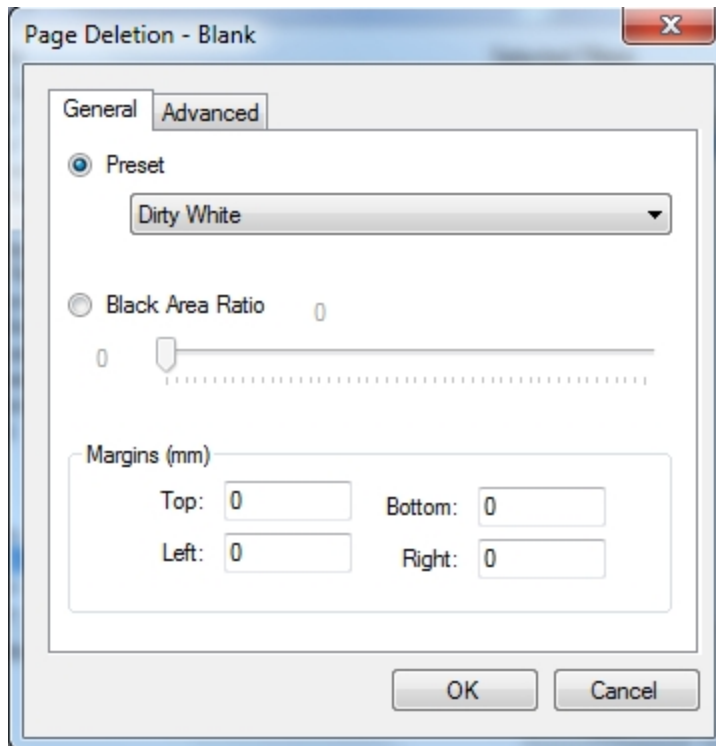
This filter removes the entire page from the batch.

IMPORTANT! It is not recommended to apply this filter to delete the first page during on the fly IP processing, as unpredictable results may occur (all pages may be deleted).

Page Deletion - Always

To detect blank pages in a document, one of two methods can be applied. If you apply the **Preset** method, select from the following options:

- **Pristine White** considers pages blank when they contain no noise.
- **Dirty White**, the default setting, considers pages blank when they contain some noise.
- **Very Dirty White** considers pages blank when they contain a lot of noise.
- **One Line OK** considers pages blank when they contain one specified line of text.
- **Two Lines** considers pages blank when they contain two specified lines of text.



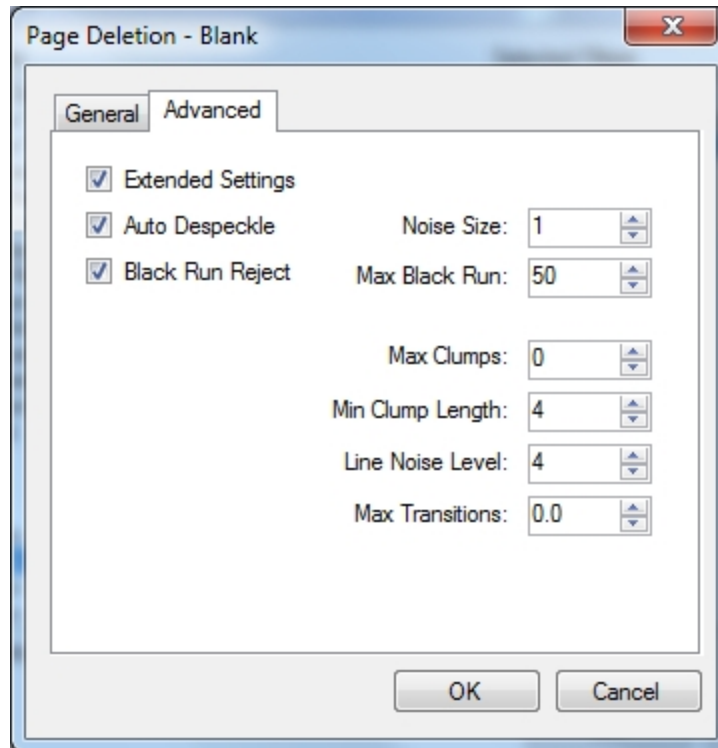
Page Deletion - Blank

If you select **Black Area Ratio**, move the slider to assign the ratio that determines when a page is blank. The ratio is calculated by dividing black pixels by the number of All Region Pixels. Enter the margins in millimeters (in whole or decimal numbers) to exclude when this setting determines whether a page is blank. This filter then deletes pages detected as blank according to your specified parameters.

Advanced Options

The Advance options enable you to configure the more options to be used to in determining the criteria use to define a blank page.

1. Click the **Advanced** tab.



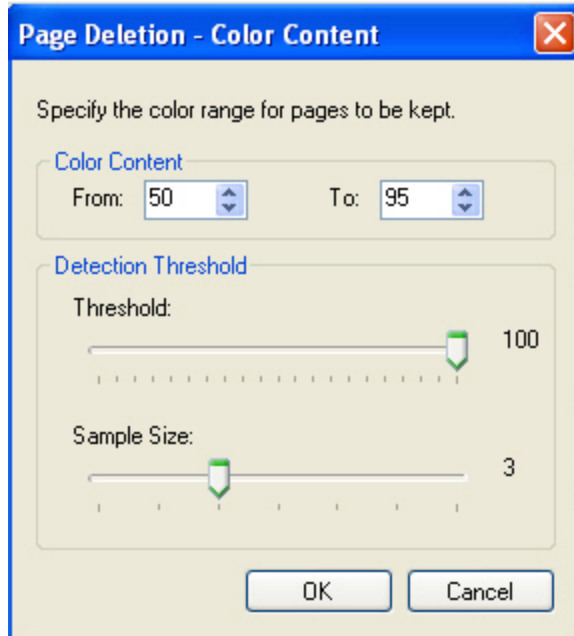
Page Deletion - Blank - Advanced

- **Extend Settings**- Select this option to enable the Advanced setting.
- **Auto Despeckle** -Select this option to have PaperFlow Automatically depesckle the image.
- **Noise Size** - Select the size noise must be in pixels before PaperFlow will clean it.
- **Black Run Reject** - Select this option to have PaperFlow detect a black run.
- **Max Black Run** - Select the maximum black run length.
- **Max Clumps** - Select the maximum number of clumps allowed in the image.
- **Min Clump Length** - Select the minimum length amount a black clump can be before PaperFlow acts on it.
- **Line Noise Level** - Select the noise level a line must have before PaperFlow acts on it.
- **Max Transitions** - Select the maximum amount transitions a image can have.

2. Click **OK** to save the changes

Page Deletion - Color Content

This filter allows you to assign color threshold settings that specify whether to delete color pages or non-colorful pages.



Page Deletion - Color Content

- The **Color Content** ranges from 1 and 100. Pages detected outside your specified range will be deleted.
- The **Threshold** value ranges from 1 and 100.
- The **Sample Size** value ranges from 1 and 7.

Page Deletion - Dimensions

This filter allows you to specify the dimensions (in pixels) of pages that will remain in the batch. Enter the width and height ranges in the **From** and **To** fields, and images with dimensions that fall outside your specified ranges will be deleted from the batch.

Page Deletion - Dimensions

Page Deletion - File Size

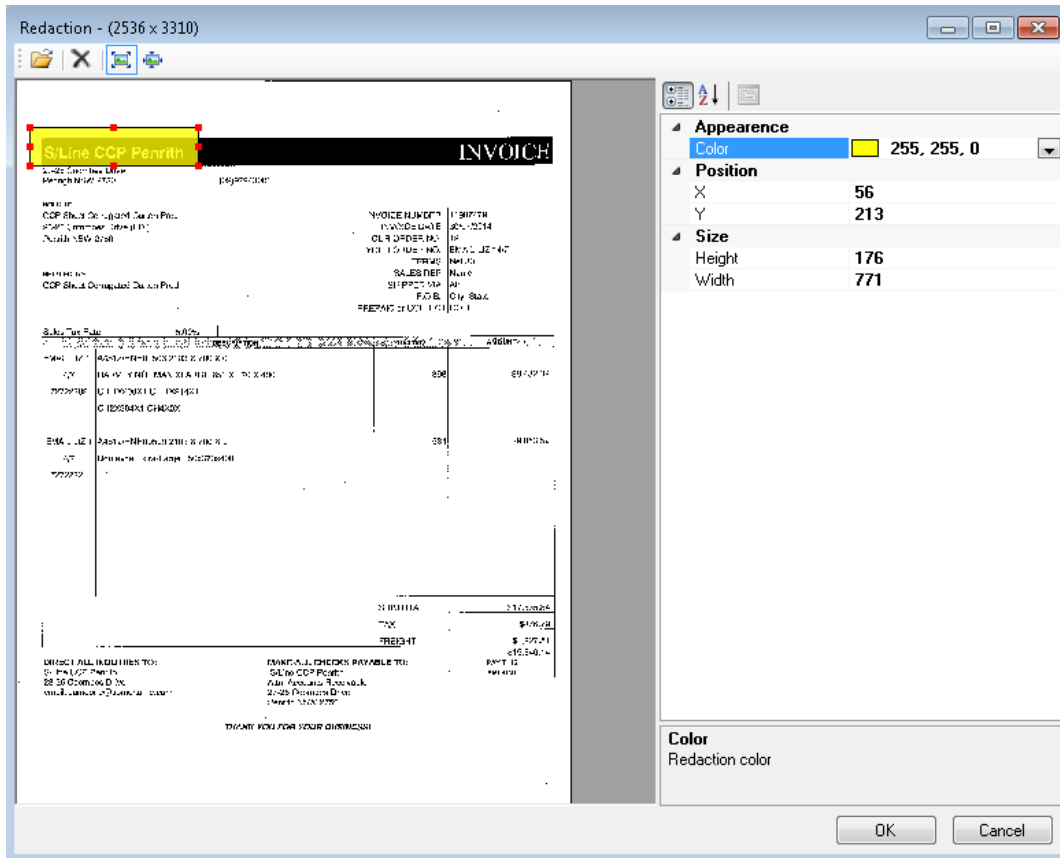
This filter allows you to specify the file size for pages that will remain in the batch. Enter the size range, including the numeric value and file size unit, in the **From** and **To** fields, and images falling outside your specified size range will be deleted from the batch.

Note: If you do not enter a specific file size unit (KB, MB, etc) after the numeric value, the unit defaults to bytes. Therefore, for kilobytes and megabytes, you must enter "KB" and "MB" after the numeric values.

Page Deletion - File Size

Redaction

The Redaction filter allows you to cover confidential or sensitive data on images. To ensure redactions consistently cover the same area on every image, it is recommended to test images with similar sizes that will be used in production. For your reference, the size (in pixels) of each imported image appears in the title bar.



Redaction

To import an image

1. Click the **Import Image** icon in the toolbar.
2. In the **Open** dialog box, locate the image.
3. Click **Open**.

To adjust the image view:

1. To fit the image exactly within the window, click **Best Fit**.
2. To view the image in its actual size, click **Actual Size**.

Drawing Redactions

After you have imported a sample image into the Redaction window, the cursor is automatically equipped with the Redaction tool.

To draw a redaction

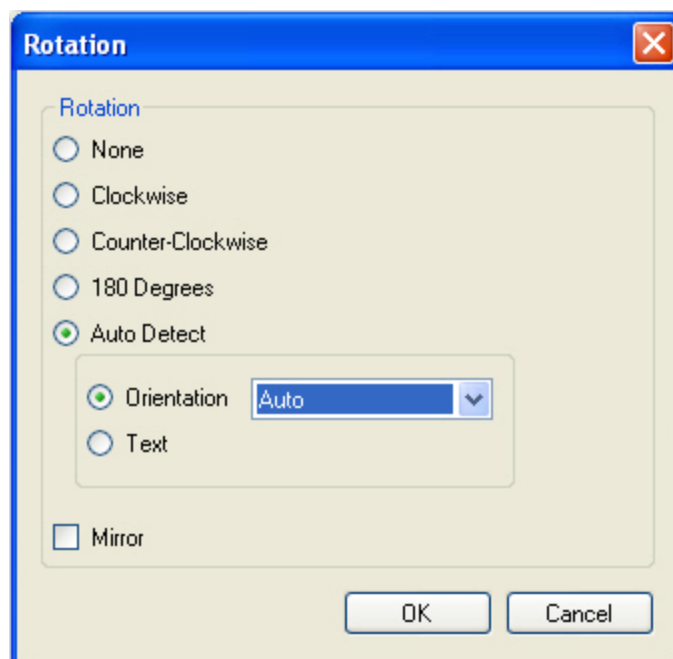
1. Drag the cursor around the area on the image. By default, a transparent rectangle appears on the image.
2. Once the redaction is drawn, the redaction properties appear in the properties grid on the right. You can edit the color, position, and size of the redaction.
 - **Color:** From the drop-down list, you can select the background color of the redaction.
 - **Position:** The X coordinate indicates the position of the redaction's upper-left corner relative to the container's left edge. The Y coordinate indicates the position of the redaction's upper-left corner relative to the container's top edge.
 - **Size:** The width and height of the redaction are specified in pixels.
3. After making necessary adjustments, click **OK** to save the redaction properties.

To delete a redaction:

1. Select the redaction.
2. Click **Delete**, or press the **Delete** key.

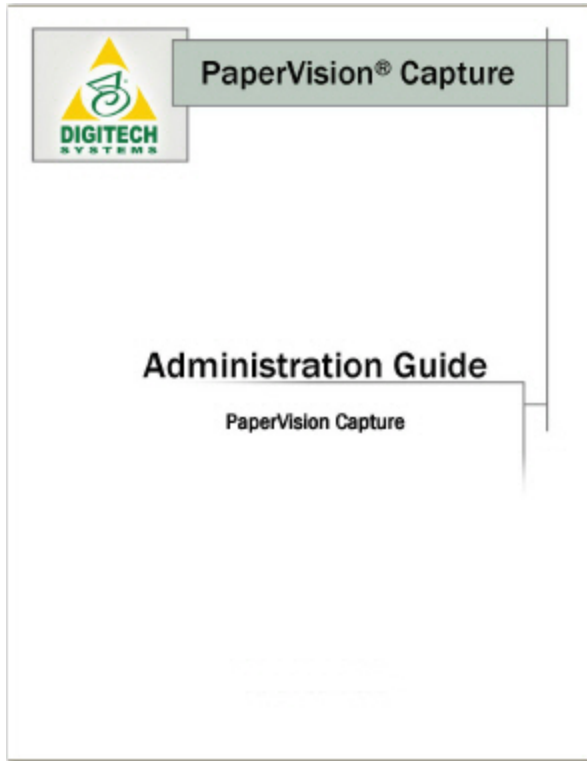
Rotation

The Rotation filter automatically rotates scanned images by your specified direction, fixed amount of degrees, or detected text orientation. The **Text** setting detects the image's text orientation using the Open Text Full-Text OCR engine, and then automatically rotates the image.

**Rotation**



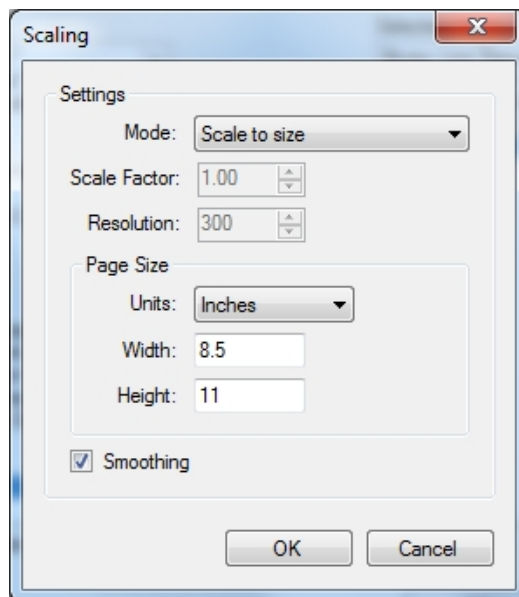
Before Rotation



After 180-degree Rotation

Scaling

Scaling enables you fit the image to a desired size.



Scaling

Select the mode by which to scale the image and then follow the steps provided for the mode

Scale to size

Enables the user to select a unit of measurement by which to scale the image.

1. Select a **Scale to size**.
2. Select a Unit of measure.
 - Pixels
 - Inches
 - Millimeters
 - Centimeters
 - Points
3. Enter the desired width and then click **OK** to save the changes.

Scale to resolution

Scales the image to a resolution highest resolution. When an image is scanned from a third party product, for example a fax machine, it can be scanned at a resolution of 250 by 300 dpi. This option will scale the image to 300 by 300 dpi.

Resolution Alignment - Scales the image to an even resolution. When an image is scanned from a third party product, for example a fax machine, it can be scanned at an uneven resolution of 250 by 300 dpt. This option scales the image to 300 by 300 dpi.

1. Select **Scale to resolution**.
2. Enter a resolution and then click **OK**.

Scale with coefficient

Use a factor by which to scale the image to a size. An image with a resolution of 500 by 500 being scaled to a coefficient of .5 will be scaled down to 250 by 250 dpi.

1. Select **Scale with coefficient**.
2. Enter the desired factor in the **Scale Factor** text box.
3. Click **OK** to save the changes.

Resolution Alignment

Scales the image to an even resolution. When an image is scanned from a third party product, for example a fax machine, it can be scanned at an uneven resolution of 250 by 300 dpt. This option scales the image to 300 by 300 dpi.

1. Select **Scale to Alignment**
2. Click **OK** to save the changes.

Change Resolution

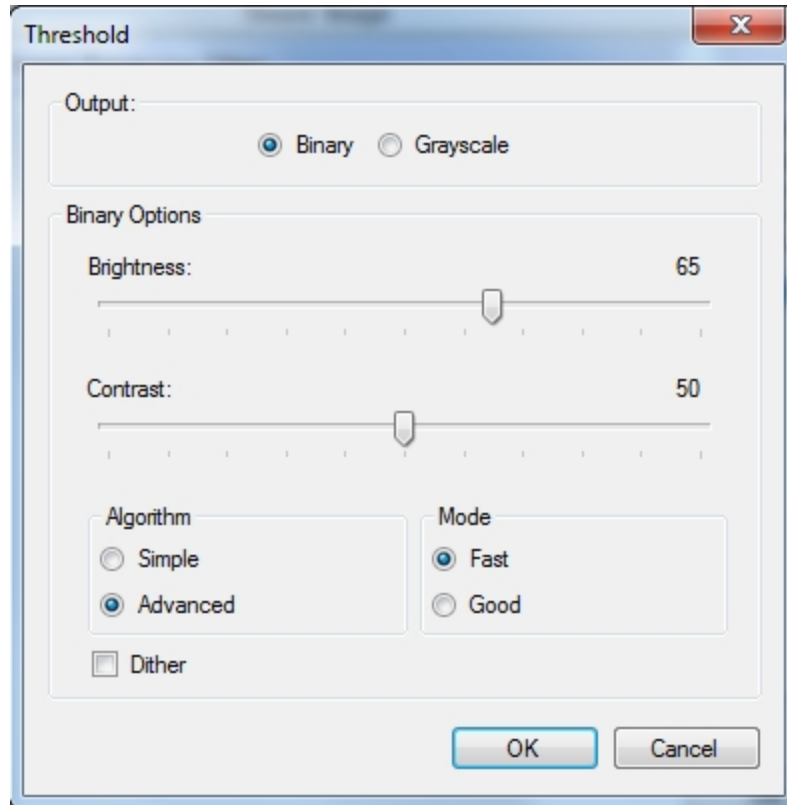
Scales the image to the selected resolution.

1. Select **Changes to resolution**.
2. Enter a resolution in the **Resolution** text box.

3. Click **OK** to save the changes.

Threshold

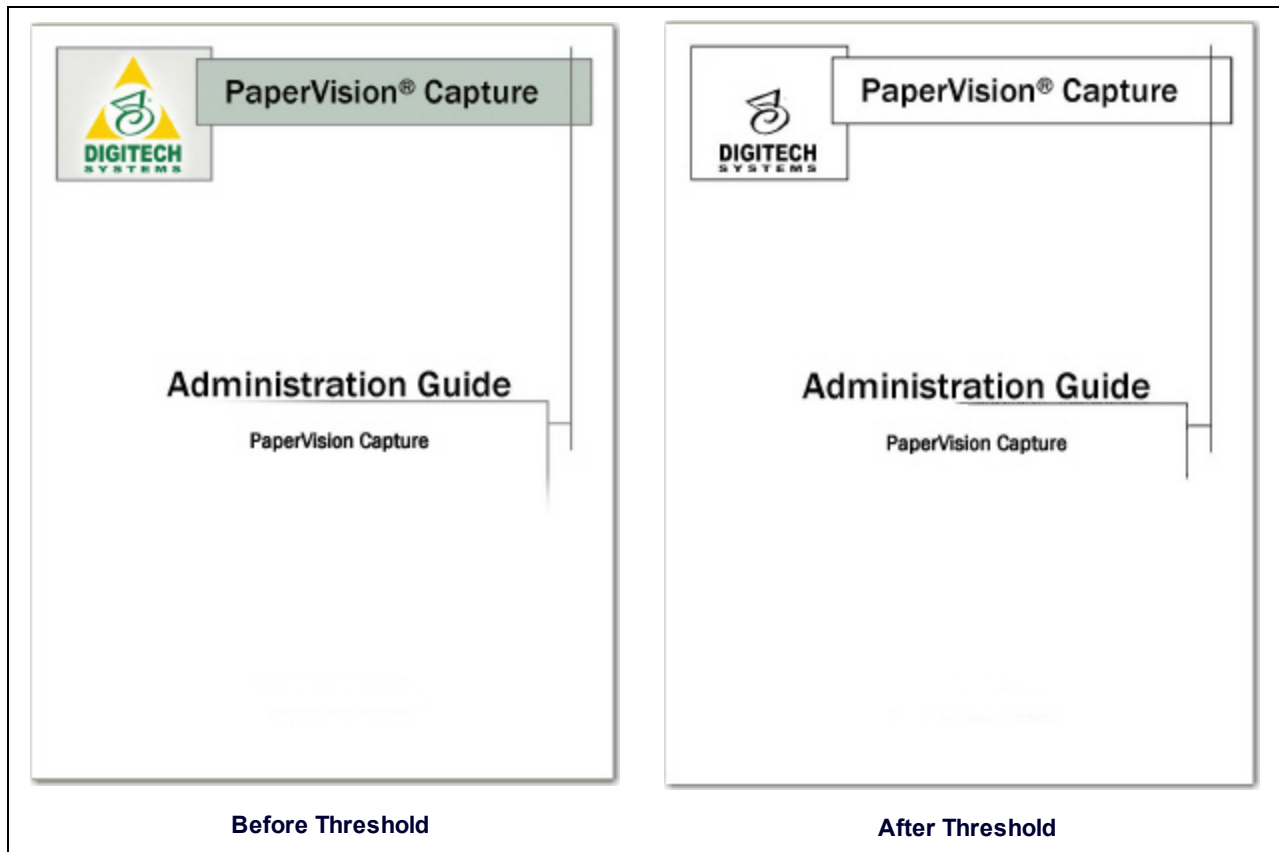
The Threshold filter converts a 24-bit color image to a binary or grayscale image.



Threshold

To specify the Threshold settings

1. Select how PaperFlow will treat this image: as a **Binary** or in **Grayscale**.
2. Move the **Brightness** slider to assign the point at which color pixels are converted to white rather than black.
3. Move the **Contrast** slider to assign the contrast of the resulting binary image.
4. Select which algorithm to use:
 - **Simple**- uses the configurations set above
 - **Advanced** - enables the Mode option
5. Select the Mode to be used:
 - **Fast**- causes thresholding to process quickly, and results in quality images.
 - **Good** causes the thresholding to process more slowly, but results in better quality images
 - **Dither** - Select this option to apply dithering to the image.
6. Click **OK**.



Exports

In the **Auto Process** page, you can determine how images and full-text (if configured) are sent to external applications, web sites, folders, and other locations. For example, you can export images that you have scanned, cropped, and indexed, and subsequently upload them to an external web site or application, such as ImageSilo, PaperVision Enterprise, and Microsoft SharePoint. Or, you can simply export your scanned documents as PDF files to a specified location on your local or network drive.

The PaperFlow and ImageSilo/PVE XML exports include a separate summary file (BATCH_TRACE.XML) that contains details about the batch such as: data group ID, batch name, batch ID, export time stamp, export path, and other tracking data. The information in this file can be used by administrators to trace a batch back to its original batch and job in PaperFlow.

You can assign properties that can be configured within a graphical user interface organized in tabbed dialog boxes including the General, Indexes, OCR, Options, and FTP tabs. To expedite the configuration of each export script, default properties are provided to you in drop-down menus, editable fields, and check boxes that you can easily modify.

As exports are executed, they are appended to the first available destination folder based on sequence number and maximum export size (defined by the Max Export Size property). When the maximum export size is reached, exports will be appended to the next available folder. As a result, all subsequent processes will append exports to the next available folder.

For example, four folders are available for the **Root Path** property, and the **Max Export Size** is defined as 600 MB:

- Folder_1: 600 MB
- Folder_2: 400 MB
- Folder_3: 600 MB
- Folder_4: 100 MB

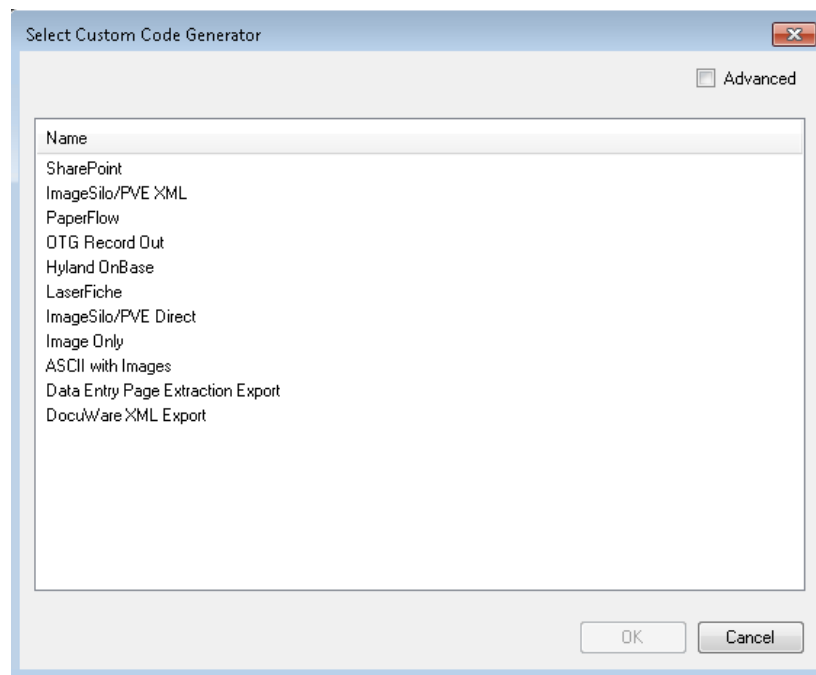
Since the maximum export size has been reached in Folder_1, Folder_2 will be used as the export folder.

Export Custom Code Configuration

In PaperFlow, exports are also driven by the custom code engine and allow further opportunity for customization.

To configure an export

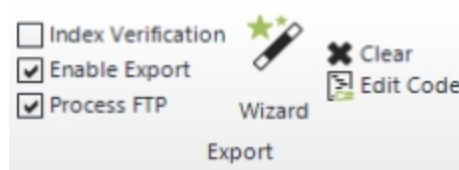
1. In the Auto Process page, click **Wizard** in the **Export** toolbar group. The **Select Custom Code Generator** dialog box appears, where exports are listed.




Select Custom Code Generator

Tip: To view advanced settings, select the **Advanced** check box. Advanced settings include programming language options (C# or Visual Basic) and the Export Template, which contains additional pre-defined code that will automatically process batches.

2. Select the export, and then click **OK**. The selected export and corresponding properties appear in tabbed dialog boxes.
 - Default values and applicable index fields are provided for your reference, and drop-down menus contain only the options specific to your selected export.
 - You can manually enter file paths or browse to the appropriate directory.
3. After you have configured the properties for the selected export, click **OK**.
4. Prior to processing the export, click the **Enable** check box in the **Export** toolbar group.



Full-Text OCR enabled

5. To process the export or start the scheduled tasks, click the **Start**  icon in the **Process Action** toolbar group. A progress bar appears, indicating whether the batch was successfully processed.

Export Definitions

PaperFlow contains specific definitions that can be configured within a graphical user interface. When you configure an export from the **Select Custom Code Generator** dialog box, properties specific to that export will appear in tabbed dialog boxes. To expedite the configuration of each export script, default properties are provided for you in drop-down menus, editable fields, and check boxes that you can modify.

SharePoint

The SharePoint export creates a file that can be used to export PaperFlow data into a Microsoft® SharePoint® site.

Note: Only Microsoft SharePoint 2007 (on Windows Server 2003 or 2008) or Microsoft SharePoint 2010 (on Windows Server 2008) are supported for this export.

To configure the SharePoint export

1. From the **Select Custom Code Generator** dialog box, double-click the **SharePoint** export, and the tabbed **SharePoint Configuration - General** dialog box appears.

The screenshot shows the 'SharePoint Configuration' dialog box with the 'General' tab selected. The fields are as follows:

- Base URL: http://
- Username: [Empty]
- Password: [Empty]
- Domain: [Empty]
- Use authenticated user
- SharePoint Online
- Library: [Dropdown]
- Content Type: [Dropdown]
- Root Path: [Empty]
- Local Temp Folder: c:\Exports\SharePoint\ [Browse button]

SharePoint Configuration - General

You must configure all properties (described below) in the **General** tab.

2. Proceed to the **Indexes** tab. If you entered valid SharePoint data, you can map PaperFlow index field names to SharePoint columns.

Note: An error message will inform you when you have entered invalid SharePoint data.

3. If applicable, map the appropriate index field names to SharePoint columns.
4. Proceed to the **OCR** and **Options** tabs to modify the appropriate properties that are described below.
5. When you have finished configuring the export, click **OK**.

SharePoint - General

When you configure properties in the General tab, you can modify constant values that appear in the resulting export script. Descriptions for each property are listed below.

- **Base URL:** This property specifies the Microsoft SharePoint host site name and port used for the export. Script constant: SHAREPOINT_BASE_URL
- **Username:** This property specifies the Microsoft SharePoint user name. Script constant: SHAREPOINT_USERNAME

- **Password:** This property specifies the Microsoft SharePoint user's password. By default, the SharePoint password is encrypted in the Script Editor. If desired, you can expose the password in the Script Editor by inserting the tilde (~) prefix before the password (e.g., ~password). Script constant: SHAREPOINT_PASSWORD
- **Domain:** This property specifies the Microsoft SharePoint domain name. Script constant: SHAREPOINT_DOMAIN

Note: If you select the **Authenticated User** option, the database connection will use Windows Authentication credentials. Entering a user name and password for the database will supersede the Windows Authentication credentials.

- **Library:** This property specifies the Microsoft SharePoint list name (Document Library). Script constant: SHAREPOINT_LISTNAME
- **Content Type:** If applicable, select the SharePoint content type. If content types have been created in the SharePoint library, they will appear in this list. Script constant: CONTENT_TYPE
- **Root Path:** This is the location on your SharePoint Server where the folders will be created once the automation service processes the step. If you do not specify a value for the Root Path property, no folders will be created on the SharePoint Server. Script Constant: SHAREPOINT_PATH**Local Temp**
- **Folder:** This property specifies the local folder path where the Microsoft SharePoint export is temporarily stored on your local machine prior to moving to the Microsoft SharePoint site. Script constant: TEMP_FOLDER

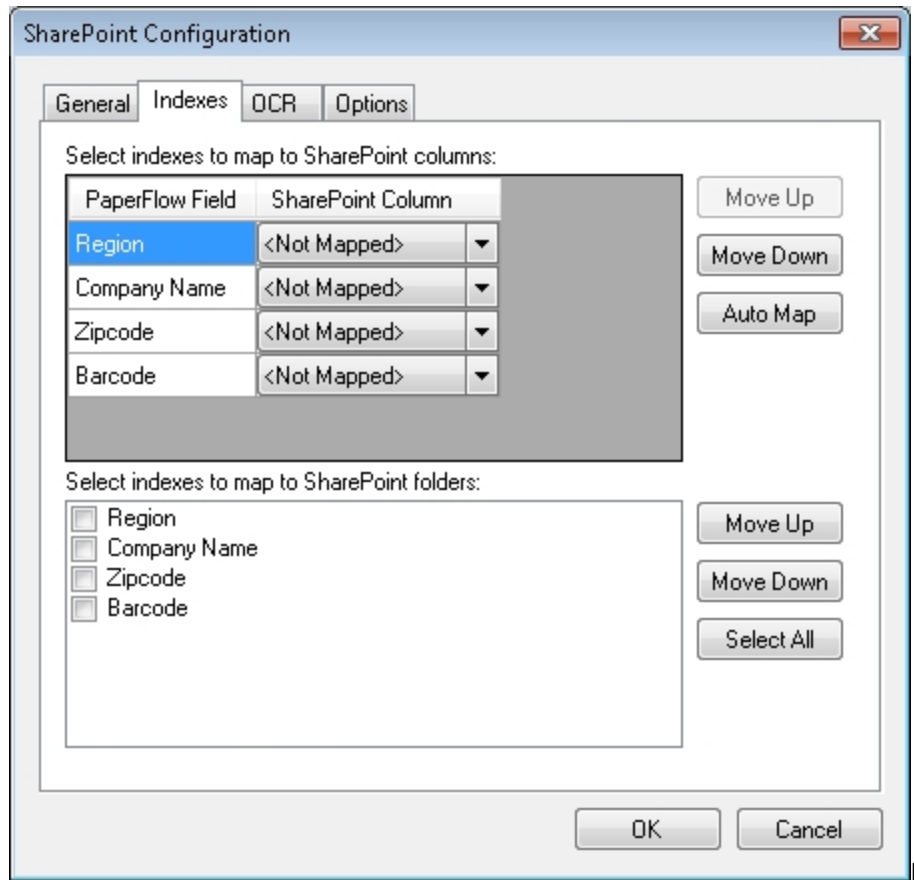
Note: If the Local Temp Folder is blank, the export will be written to the directory where the application was installed (e.g., C:\Program Files(x86)\Digitech Systems\PaperFlow.net).

SharePoint - Indexes

In the Indexes tab, you can map PaperFlow index field names to SharePoint column names. PaperFlow index field names appear in the left column. From the **SharePoint Column** drop-down list, select the column name that maps to the PaperFlow index field name. To automatically map an index field to a similarly-named Microsoft SharePoint column, click the **Auto Map** button. To edit the indexes in the resulting export script, you can modify the COLUMN_INDICES or FOLDER_INDICES constant described below.

Alternatively, if a SharePoint column does not exist, you can create a new column that will be mapped to the corresponding index field. To do this, select **<CreateNew>** from the SharePoint Column drop down list.

Note: Some PaperFlow index field types may not be supported in Microsoft SharePoint. Therefore, some index fields may not be mapped to SharePoint columns in the export.



SharePoint Configuration - Indexes

- **Select indexes to map to SharePoint columns:** Your selections determine the index values mapped from PaperFlow to Microsoft SharePoint columns. These columns must already be defined in your Microsoft SharePoint list. To provide a mapping between fields, the following format is required:

<PaperFlowField>:<SharePoint>

Example 1: "Field1", "Field 2", "Field 3", etc.

Note: This format can be used when the same field names exist in both PaperFlow and your Microsoft SharePoint site.

Note: This constant is optional, so when an empty array is assigned to COLUMN_INDICES, Microsoft SharePoint's metadata is not populated.

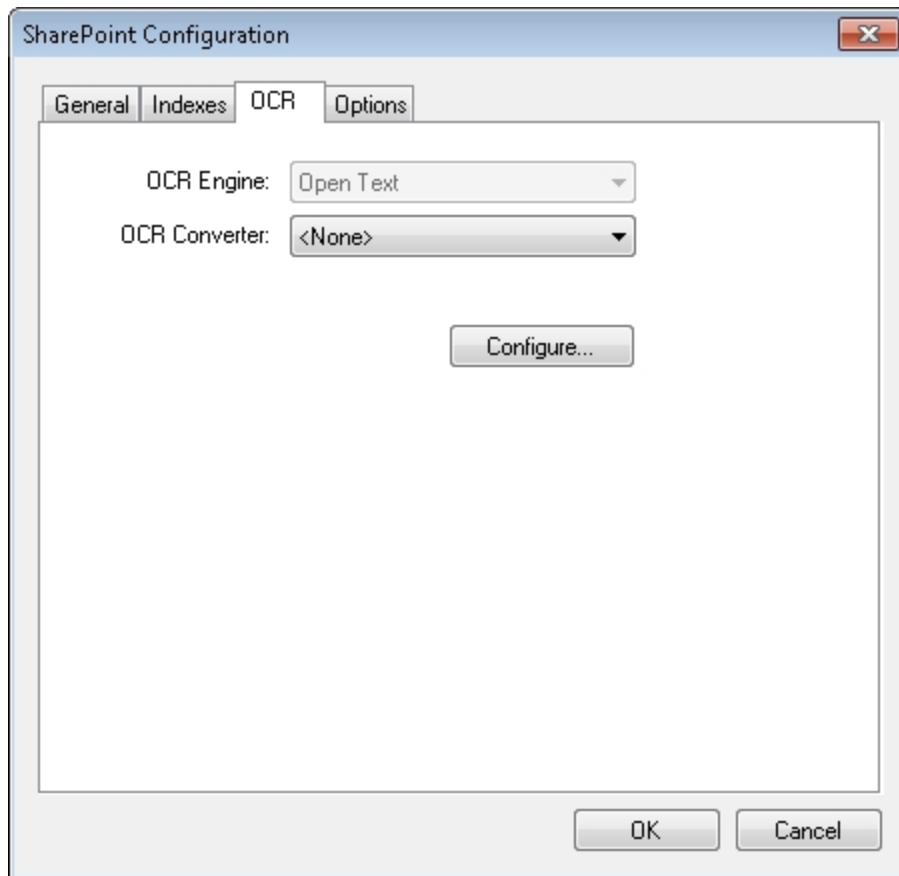
Example 2: "Field1:Field1", "Field2:Field2:", etc.

Script constant: COLUMN_INDICES

Select indexes to map to SharePoint folders: Your selections determine the index values mapped from PaperFlow to Microsoft SharePoint folders. These folders must already be defined in your Microsoft SharePoint list. Script constant: FOLDER_INDICES

SharePoint - OCR

1. When you select the OCR converter in the OCR tab, you can modify the constant value that appears in the resulting export script.



SharePoint Configuration - OCR

2. **OCR Converter:** Select the type of converter needed for this job:
 - **None** - No OCR outputs will be generated.
 - **PaperFlow** - Outputs a PaperFlow OCR data file with images and full-text OCR data file.
 - **PaperVision Enterprise** - Outputs a PaperVision Enterprise OCR data file with images and full-text OCR data file.
 - **PDF** - Outputs a PDF OCR data file with full-text OCR data.
 - **Text** - Outputs a text data with OCR data file.

```
private const string OCR_CONVERTER_CODE = "PDF";
```

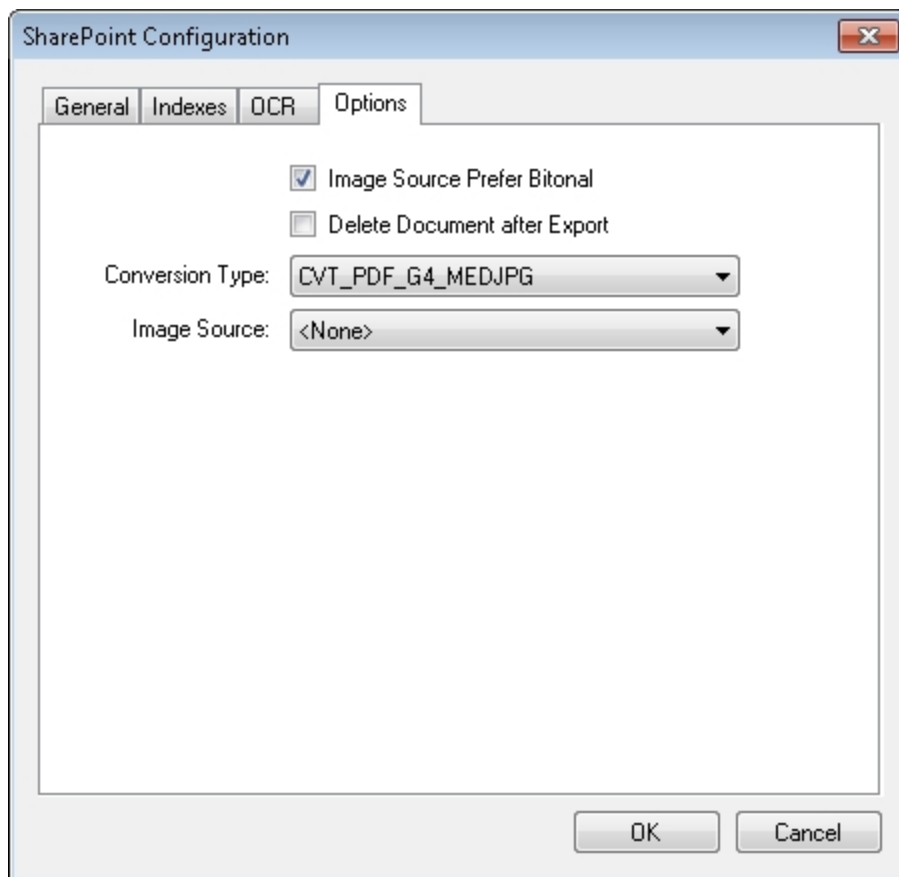
Note: For a list of converter codes, see the PVCaptureBatchAPI.chm help file's **PVBatch.TryGetOCRFiles Method** topic found within the **Docs** directory where PaperFlow was installed.

Script constant: OCR_CONVERTER_CODE

3. Click the **Configure** button to select the applicable options. Click the [Full-Text OCR Configuration](#) topic for more information.

SharePoint - Options

When you configure properties in the Options tab, you can modify constant values that appear in the export script. Descriptions for each constant value are listed below.



SharePoint Configuration - Options

- **Image Source Prefer Bitonal:** This property is applicable to dual-stream scanners and determines whether to export bitonal or color images. When set to True, which is the default setting, bitonal images will be exported. Script constant: IMG_SRC_PREFER_BITONAL_IMAGES
- **Delete Document After Export:** This property specifies whether documents are deleted after they have been exported (set to False by default). Script constant: DELETE_DOCUMENT_AFTER_EXPORT
- **Conversion Type:** This property determines the type of image file created during the export. The default

value, `CVT_NO_CONVERSION`, does not convert images during the export. If exporting to a format that supports both single and multi-page images, you must set the `CREATE_MULTI_PAGE_IMAGE` constant to True if you want to create multi-page images; otherwise single page images will result. For example, if you set this to `CVT_TIFF_G4_MEDJPG`, a TIFF image is created during the export. If the source image is binary, it will create a TIFF using Group 4 compression; if the source image is color (JPG or BMP), it will create a TIFF using Medium JPEG compression. For a list of file types that can be converted to during the export, see the Enumerations section in the Custom Code Configuration topic. Script constant: `CONVERSION_TYPE`

Note: Some PaperFlow index field types may not be supported in Microsoft SharePoint, so some field mapping may not be included in the export.

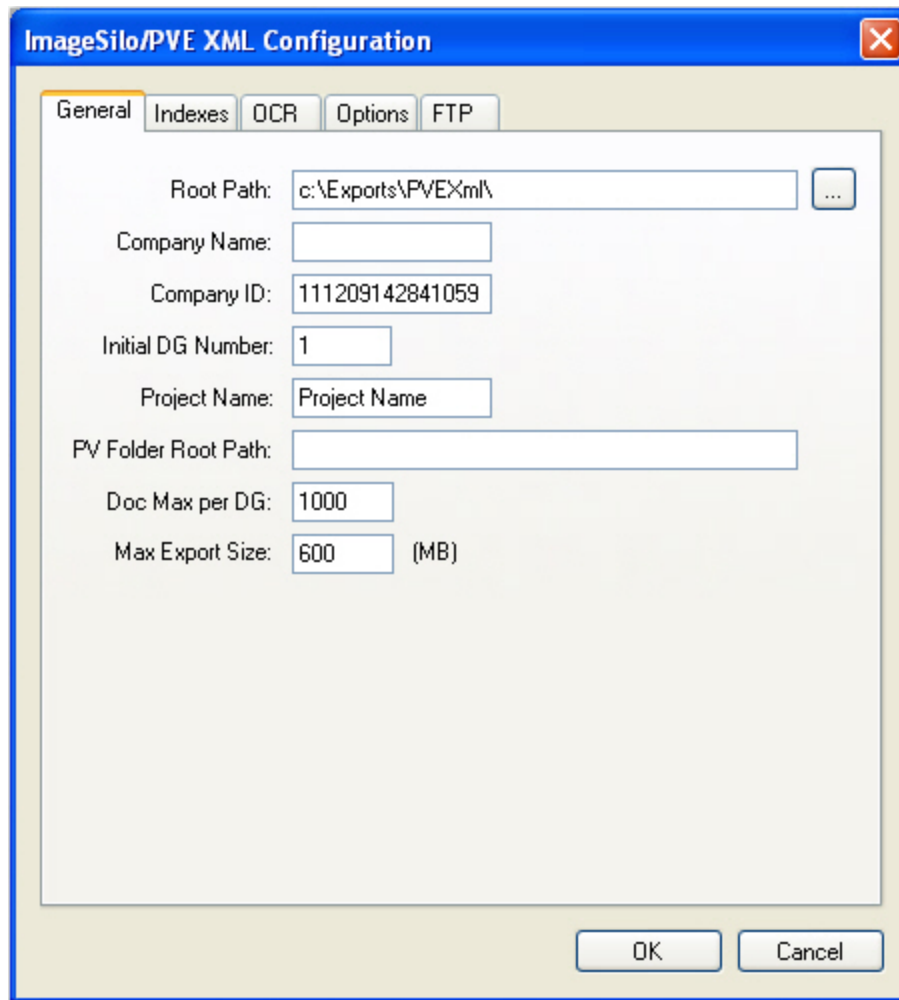
- **Image Source:** This property determines whether original images (pre-image processing) or modified images (post-image processing) are used for the export. The Pre-Image Processing option uses the original image that has not been modified by image processing, and the Post-Image Processing option uses the image that has been modified by image processing. The default selection, **<None>**, uses the most recent image prior to exporting. Script constant: `IMG_SRC`

ImageSilo/PVE XML

The ImageSilo/PVE XML export creates an export that can be used to import batches into an ImageSilo or PaperVision Enterprise site.

To configure the ImageSilo/PVE XML export

1. From the **Select Custom Code Generator** dialog box, double-click the **ImageSilo/PVE XML** export, and the tabbed **ImageSilo/PVE XML Configuration - General** dialog box appears.



ImageSilo/PVE XML Configuration - General

Default values, paths, and other properties are provided for your reference, and drop-down menus contain options specific to your selected generator. In addition, you can browse to some directories or manually enter file paths. Descriptions for all properties are listed below.

2. Proceed to the **Indexes**, **OCR**, **Options**, and **FTP** tabs to modify the appropriate properties. Descriptions for constant values appearing in the resulting export script are listed below.
3. When you have finished configuring the export, click **OK**.

ImageSilo/PVE XML - General

When you configure properties in the General tab, you can modify constant values that appear in the resulting export script. Descriptions for each property are listed below.

- **Root Path:** This is the location where the exports will be created once you have started the automated process. Script constant: `ROOT_PATH`

Note: If the Root Path is blank, the export will be written to the directory where the application was installed (e.g., C:\Program Files(x86)\Digitech Systems\PaperFlow.net).

- **Company Name:** This required field is the name of your company or department, and is blank by default. Script constant: COMPANY_NAME
-

NOTE: The following characters are invalid and cannot be used in the **Company Name** box: \ / " * : ? " < > |.

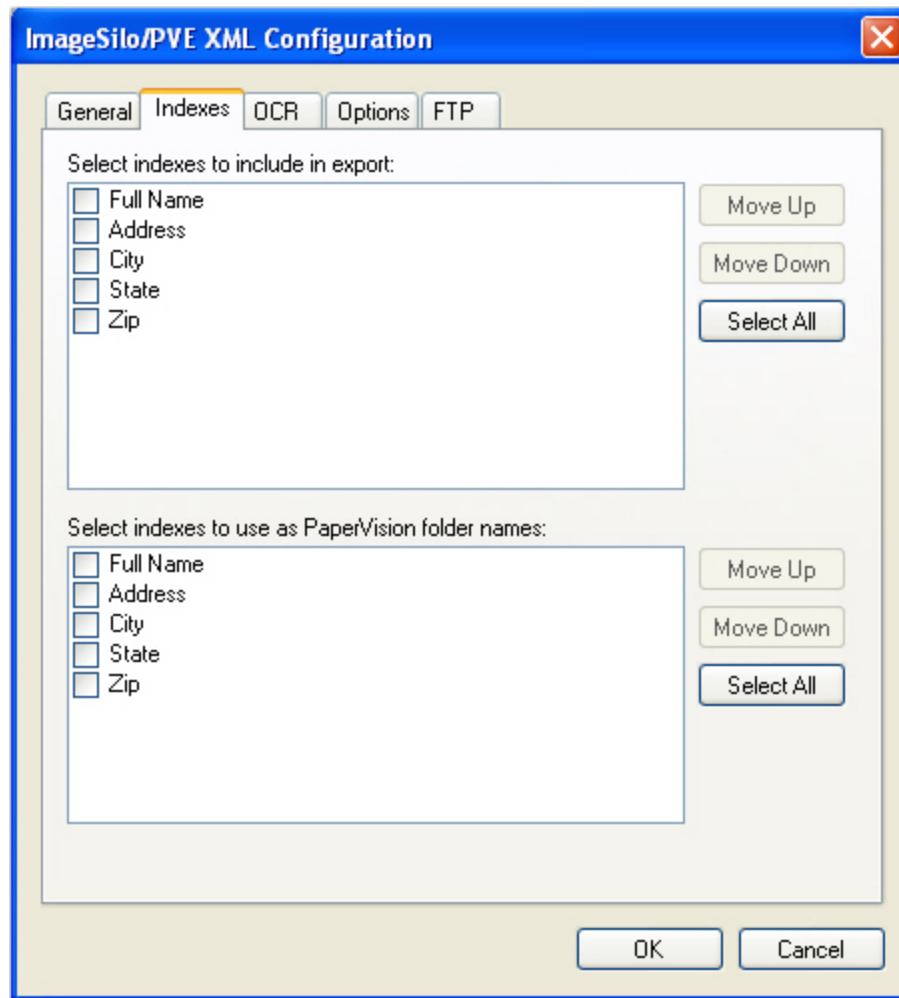
- **Company ID:** This property is the ID of your company or department. The default value is set to the identifier, "ymmddhnnssms". Script constant: COMPANY_ID
- **Initial DG Number:** This property represents the initial Data Group number used by PaperVision Enterprise. The default value is "1". Script constant: INITIAL_DATA_GROUP_NUMBER
- **Project Name:** This property indicates the name of your project. The default value is set to "Project Name". Script constant: PROJECT_NAME
- **PV Folder Root Path:** This property specifies the root path containing all folders (used in the Folder view in PaperVision Enterprise). Enter the root path between the quotes (e.g., C:\\Exports\\PVEXm\\FolderRootPath\\). Script constant: PV_FOLDER_ROOT_PATH
- **Doc Max per DG:** This property indicates the maximum number of documents per data group. The default value is "1000", which is the recommended value for XML files. Script Constant: DOCUMENT_MAX_PER_DATAGROUP
- **Max Export Size:** This property indicates the maximum export file size (in MB), which defaults to a value of "600". Script constant: MAX_EXPORT_SIZE

ImageSilo/PVE XML - Indexes

1. In the Indexes tab, you can select the index values that will appear in the export by double-clicking within the appropriate check boxes. Alternatively, click the **Select All** button to include all indexes in the export. You can also click **Deselect All** to remove all selections. To change the order in which the indexes display, single-click an index name (to highlight it), and then click the **Move Up** or **Move Down** buttons.
-



Single-click an index name to move it up or down the list. Double-click an index name to include it in the export.

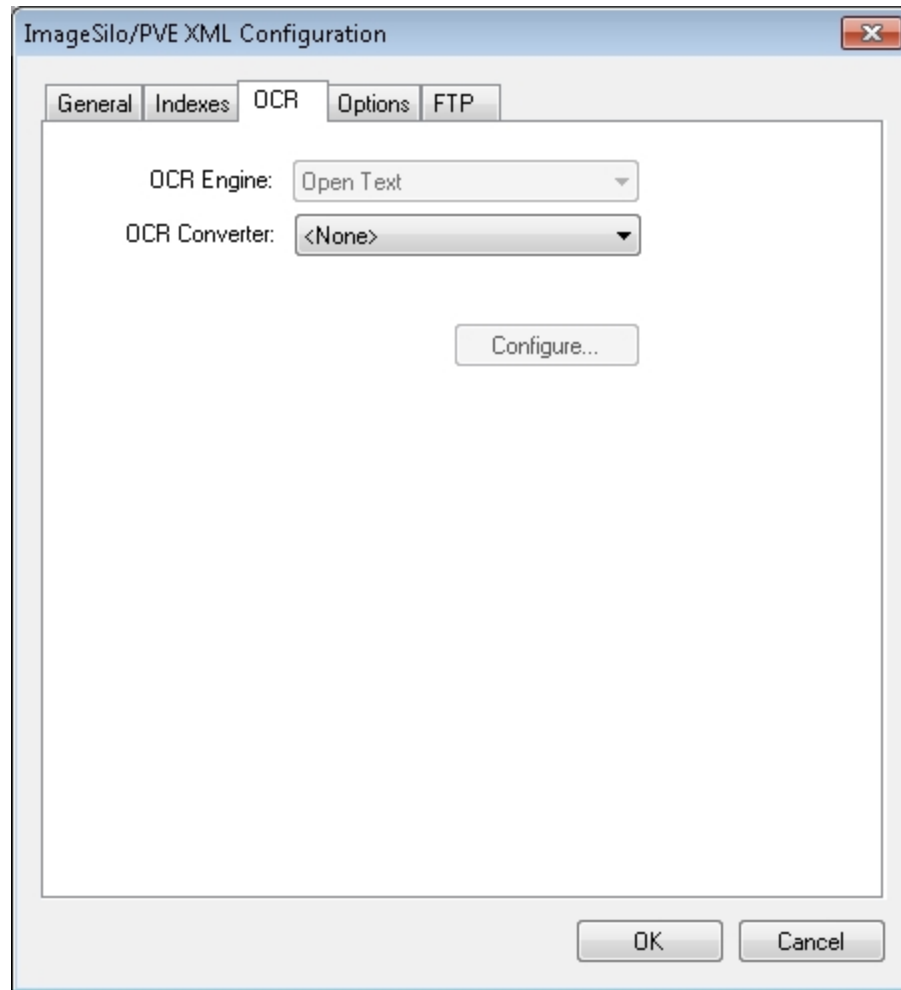


ImageSilo/PVE XML Configuration - Indexes

2. To edit the indexes in the resulting export script, you can modify the **INDICES_TO_INCLUDE** and **PV_FOLDER_INDICES** constants, which are described below
 - **Select indexes to include in export:** Your selection determines the index values included in the export file. To include all indices, leave the array blank. Script constant: `INDICES_TO_INCLUDE`
 - **Select indexes to use as PaperVision Folder names:** Your selection determines the index value(s) representing each folder (used in the Folder view in PaperVision Enterprise). If you leave the array blank, no index values will be included. Script constant: `PV_FOLDER_INDICES`
3. When you have finished configuring the export, click **OK**.

ImageSilo/PVE XML - OCR

1. When you select the **OCR Converter** in the **OCR** tab, you can modify the constant value (described below) that appears in the resulting export script.



ImageSilo/PVE XML Configuration - OCR

2. **OCR Converter** : Select the type of converter needed for this job:

- **None** - No OCR output will be generated.
- **PaperFlow** - Outputs a PaperFlow OCR data file with images and full-text OCR data file.
- **PaperVision Enterprise** - Outputs a PaperVision Enterprise OCR data file with images and full-text OCR data file.
- **PDF** - Outputs a PDF OCR data file with full-text OCR data.
- **Text** - Outputs a text data with OCR data file.

```
private const string OCR_CONVERTER_CODE = "PDF";
```

Note: For a list of converter codes, see the PVCaptureBatchAPI.chm help file's PVBatch.TryGetOCRFiles Method topic found within the Docs directory where PaperFlow was installed.

```
Script constant: OCR_CONVERTER_CODE
```

- Click the **Configure** button to select the applicable options. Click the [Full-Text OCR Configuration](#) topic for more information.

ImageSilo/PVE XML - Options

When you configure the properties in the Options tab, you can modify constant values that appear in the resulting export script. Descriptions for each property are listed below.

The screenshot shows the 'ImageSilo/PVE XML Configuration' dialog box with the 'Options' tab selected. The dialog has five tabs: General, Indexes, OCR, Options, and FTP. The 'Options' tab contains the following settings:

- Create Multi-Page Image
- Image Source Prefer Bitonal
- Use Export Complete File
- Create Submit File
- Delete Document after Export
- Disable Appending
- Include Native Document Sources
- Document User Files
- Batch User Files (with a 'Batch Name' dropdown menu)
- Conversion Type: CVT_NO_CONVERSION (dropdown menu)
- Image Source: <None> (dropdown menu)
- Enable Data Group Auto-Mapping
- Entity ID: (text input field)
- Mapping Key: (text input field)

At the bottom of the dialog are 'OK' and 'Cancel' buttons.

ImageSilo/PVE XML Configuration - Options

- **Create Multi-Page Image:** Used in conjunction with CONVERSION_TYPE, this constant determines whether exported images are single-page or multi-page. Script constant: CREATE_MULTI_PAGE_IMAGE
- **Image Source Prefer Bitonal:** This property is applicable to dual-stream scanners and determines whether to export bitonal or color images. When set to **True**, which is the default setting, bitonal images will be exported. Script constant: IMG_SRC_PREFER_BITONAL_IMAGES
- **Use Export Complete File:** This property, set to **True** by default, generates an "export.complete" file once an export has reached its maximum file size, so data will no longer be appended to the export. When set to **False**, the "export.complete" file is not generated, so data may be appended to export folders that have not reached their maximum size. Script constant: USE_EXPORT_COMPLETE_FILE

- **Create Submit File:** Enable this property to automatically generate a DATAGRP.SUBMIT file. If you are importing the data group into PaperVision Enterprise via a Monitored Import Path or via Data Transfer Manager, this file is required before the import can run in PaperVision Enterprise. Script constant: CREATE_SUBMIT_FILE
- **Delete Document After Export:** This property specifies whether documents are deleted after they have been exported (set to **False** by default). Script constant: DELETE_DOCUMENT_AFTER_EXPORT
- **Disable Appending:** This property is set to **False** by default. When set to **True**, exported images will not be appended to export folders whose maximum file sizes have not been reached. Script constant: DISABLE_APPENDING
- **Include Native Document Sources:** PaperFlow does not support Native Document Sources.
- **Conversion Type:** This property determines the type of image file created during the export. The default value, CVT_NO_CONVERSION, does not convert images during the export. If exporting to a format that supports both single and multi-page images, you must set the CREATE_MULTI_PAGE_IMAGE constant to **True** if you want to create multi-page images; otherwise single page images will result. For example, if you set this to CVT_TIFF_G4_MEDJPG, a TIFF image is created during the export. If the source image is binary, it will create a TIFF using Group 4 compression; if the source image is color (JPG or BMP), it will create a TIFF using Medium JPEG compression. For a list of file types that can be converted to during the export, see the Enumerations section in the Custom Code Configuration topic. Script constant: CONVERSION_TYPE

NOTE: The JPG2000 conversion type can only be used for single-page documents.

- **Image Source:** This property determines whether original images (pre-image processing) or modified images (post-image processing) are used for the export. The Pre-Image Processing option uses the original image that has not been modified by image processing, and the Post-Image Processing option uses the image that has been modified by image processing. The default selection, <None>, uses the most recent image prior to exporting. Script constant: IMG_SRC
- **Enable Data Group Auto-Mapping:** This property determines whether data groups exported from PaperFlow are automatically mapped to a specific entity in PaperVision Enterprise or ImageSilo. When this check box is selected, a data group mapping file is created that contains the entity ID, and the mapping key-encrypted data group name. Specify the following options:
 - **Entity ID** - Type the applicable PaperVision Enterprise or ImageSilo entity ID to which you want to map the data group.
 - **Mapping Key** - Type an encryption key name that will be used to encrypt the data group when exporting, and used to decrypt the data group when importing into PaperVision Enterprise or ImageSilo. This key ensures that only data groups that have been mapped by trusted sources are automatically imported into PaperVision Enterprise or ImageSilo. This value must also be added to PaperVision Enterprise or ImageSilo prior to importing the data group. Please refer to the *PaperVision Enterprise Administration Guide* for more information on entering the mapping key value into PaperVision Enterprise or ImageSilo.

ImageSilo/PVE XML - FTP

The FTP tab contains settings to enable you to securely transfer data to an FTP site. Original data files can be transferred in their original state, or they can be placed in a compressed package file. When you configure

the properties in the FTP tab, you can modify constant values that appear in the resulting export script. Descriptions for each property are listed below.

ImageSilo/PVE XML Configuration - FTP

- **Host:** This property specifies the FTP host site name used for the export. Script constant: FTP_HOST
- **Port:** This property specifies the command port number that will be used to connect to the remote FTP server. FTP communications are typically initiated on port 21. Script constant: FTP_PORT
- **Connection:** This property specifies the type of connection that will be created. During an active connection, the remote FTP server specifies the data port number that will be used. During a passive connection, PaperFlow specifies the data port number that will be used. Script constant: FTP_CONNECTION
- **SSL Mode:** This export supports fully encrypted FTP communications using SSL (also known as FTPS). The remote FTP server must also support this feature in order to take advantage of the export's capabilities.
 - **Automatic** indicates that the server will use SSL encryption, but will attempt to automatically determine whether to use Implicit or Explicit SSL.

- **Implicit** indicates that the SSL negotiation will start immediately after the FTP connection is established.
- **Explicit** indicates the connection will be established in plain text and then explicitly starts the SSL negotiation.
- **None** (no SSL encryption) indicates that a standard FTP, non-encrypted session connection will be used.

Script constant: `FTP_ENCRYPTION`

- **Username:** This property specifies the user name that will be used to authenticate to the remote FTP server. Script constant: `FTP_USERNAME`
- **Password:** This property specifies the password that will be used to authenticate to the remote FTP server. If desired, you can expose the password in the Script Editor by inserting the tilde character (~) prefix before the password (e.g., ~password). Script constant: `FTP_PASSWORD`
- **Path:** This property specifies the folder name on the FTP site that stores the exported data. By default, this field is blank, and will write data to the user's home directory as specified by the FTP server.

For example, other possible paths include the following:

1. / (root)
2. FolderA (subdirectory under home directory)
3. /FolderA (subfolder under root path)

Script constant: `FTP_PATH`

- **Compare Last Modified Date:** For an operation type related to data groups or package files, the agent will automatically record the last modified date of the file that is being processed. When the same job is processed (and potentially the same file), the last modified date of the previous run is compared to the current, last modified date. If the file has not changed, it will not be processed again.
- For data group processing, this will also allow users to perform incremental data group processing. Once the data group has been changed, any data group files (i.e., images) that have a modified date/time greater than or equal to the previous run's database (i.e., `DATAGRP.MDB` or `DATAGRP.XML`) last modified date/time will be processed.
- Script constant: `FTP_COMPARE_LAST_MODIFIED_DATE`
- **Delete Source After Transfer:** Once the data has been successfully transferred, this constant allows the agent to delete the source data. Script constant: `FTP_DELETE_SOURCE_AFTER_EXPORT`
- **Create Compressed Package File:** When pushing data groups or files to a remote site, you can increase transfer speed by sending a single, large file rather than hundreds or thousands of small files. This option causes the agent to create a compressed package file that increases transfer speeds and security (if encryption is enabled). Script constant: `FTP_ENABLE_PACKAGE`
- **Entity ID:** When the export is configured to create compressed package files, the Entity ID and Encryption values are placed into the package file to allow the remote PaperFlow system to decrypt the data. This constant specifies the ID of the remote entity whose encryption key will be used to decrypt the package file. Script constant: `FTP_ENTITY_ID`

- **Key Name:** This property specifies the name of the encryption key used to decrypt the package file. Script constant: FTP_KEY_NAME
- **Pass Phrase:** For compressed package files, this property specifies a user-defined pass phrase that is passed through a SHA-2 algorithm (Secure Hashing Algorithm) to generate a 256-bit hash. Script constant: FTP_PASS_PHRASE
- **Enable FTP:** This property specifies whether FTP has been enabled for the export. Script constant: FTP_ENABLE

Testing FTP Connections

After you have configured the FTP settings, click the **Test Connection** button to ensure the connection is valid. If you successfully connected to the site, click **OK** in the **Success** prompt.

PaperFlow

The PaperFlow export can be used to import batches into PaperVision Enterprise, OCRFlow™, or QCFlow™.

To configure the PaperFlow export

1. From the **Select Custom Code Generator** dialog box, double-click the **PaperFlow** export, and the tabbed **PaperFlow Configuration - General** dialog box appears.

The screenshot shows the 'PaperFlow Configuration' dialog box with the 'General' tab selected. The fields are as follows:

Field	Value
Root Path	c:\Exports\PaperFlow\
Department ID	0001
Department Name	
Project Name	Project One
Initial CD Number	1
Max Data Group Size	600 (MB)

PaperFlow Configuration - General

Default values, paths, and other default settings are provided for your reference, and drop-down menus contain only the options specific to your selected generator. In addition, you can browse to the appropriate directories instead of manually entering file paths.

2. Assign the appropriate properties in the **Indexes**, **OCR**, **Options**, and **FTP** tabs Descriptions for constant values appearing in the resulting export script are listed below.
3. When you have finished configuring the export, click **OK**.

PaperFlow - General

When you configure properties in the General tab, you can modify constant values that appear in the resulting export script. Descriptions for each property are listed below.

- **Root Path:** This is the location where the exports will be created once you have started the automated process. Script constant: ROOT_PATH

Note: If the Root Path is blank, the export will be written to the directory where the application was installed (e.g., C:\Program Files(x86)\Digitech Systems\PaperFlow.net).

- **Department ID:** This value is uniquely assigned to each client for which the export is generated. The default value is "0001". This value must be four characters in length, consisting only of numbers and letters. Special characters (e.g., space, "^", ":", "*", "?", "<", ">", etc.) are invalid. Script constant: DEPT_ID
- **Department Name:** This value is uniquely assigned to each client or department and is a required field. The default value is blank. Script constant: DEPT_NAME
- **Project Name:** This value is uniquely assigned to each client or department. The default value is "Project One". Script constant: PROJECT_NAME
- **Initial CD Number:** This value can be used to export to a CD. The default value is "1". Script constant: INITIAL_CD_NUMBER

1. If you change this value after you have already performed a PaperFlow export, the new value will not be reflected in exported data groups unless you remove the "///" comment codes. The "Reset CD Number?" code should appear as follows in the export script:

```
if (!PVUtilities.TrySetCustomCounter(DEPT_ID + "_" + PROJECT_NAME,
INITIAL_CD_NUMBER, out error))

throw (new Exception("Unable to reset custom counter: " +
error.Message));
```

2. After you remove the comment codes, you must run the export to reset the counter. The next data group that is created will reflect your new INITIAL_CD_NUMBER value. Lastly, to ensure that new data groups increment properly from the new INITIAL_CD_NUMBER, you must insert the "///" comment codes once again:

```
//if (!PVUtilities.TrySetCustomCounter(DEPT_ID + "_" + PROJECT_NAME,
INITIAL_CD_NUMBER, out error))

//throw (new Exception("Unable to reset custom counter: " +
error.Message));
```

Note: You must export to a directory that does not contain existing data groups. Otherwise, the system will attempt to append to data groups whose maximum size has not been reached, and the new INITIAL_CD_NUMBER value may be ignored or other unexpected results may occur.

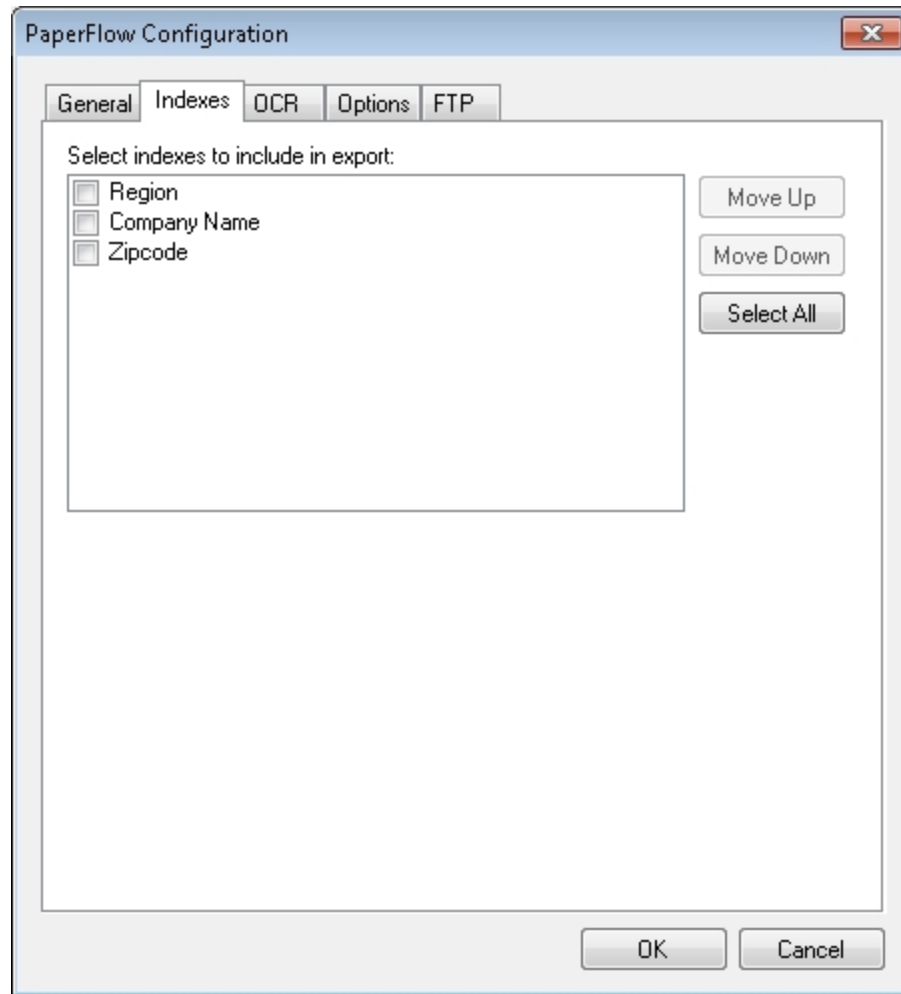
- **Max Data Group Size:** This indicates the maximum size (in MB) that a data group can reach before a new data group begins. The default value is "600," the standard CD size. Script constant: MAX_DATAGROUP_SIZE

PaperFlow - Indexes

1. In the Indexes tab, you can select the index values that will appear in the export by double-clicking within the appropriate check boxes. Alternatively, click the **Select All** button to include all indexes in the export. You can also click **Deselect All** to remove all selections. To change the order in which the indexes display, single-click an index name (to highlight it), and then click the **Move Up** or **Move Down** buttons.
-



Single-click an index name to move it up or down the list. Double-click an index name to include it in the export.

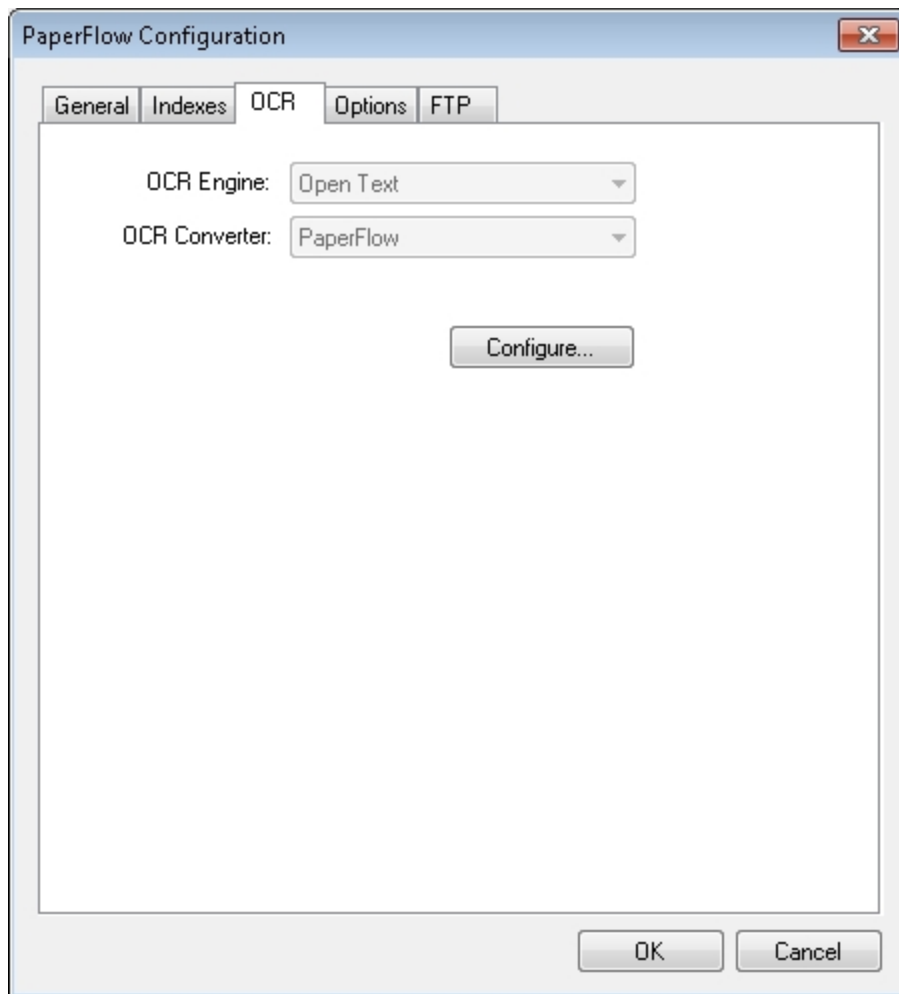


PaperFlow Configuration - Indexes

2. To edit the indexes in the resulting export script, you can modify the INDICES_TO_INCLUDE constant described below:
 - **Indexes to Include:** Your selections determine what index values are included in the export file. In the script, enter the name of the index value(s) between quotation marks, and separate each index value with a comma. To include all indices, leave the array blank. Script constant: INDICES_TO_INCLUDE
3. When you have finished configuring the export, click **OK**.

PaperFlow - OCR

1. Click the OCR tab. The OCR tab enables you to configure the OCR process.

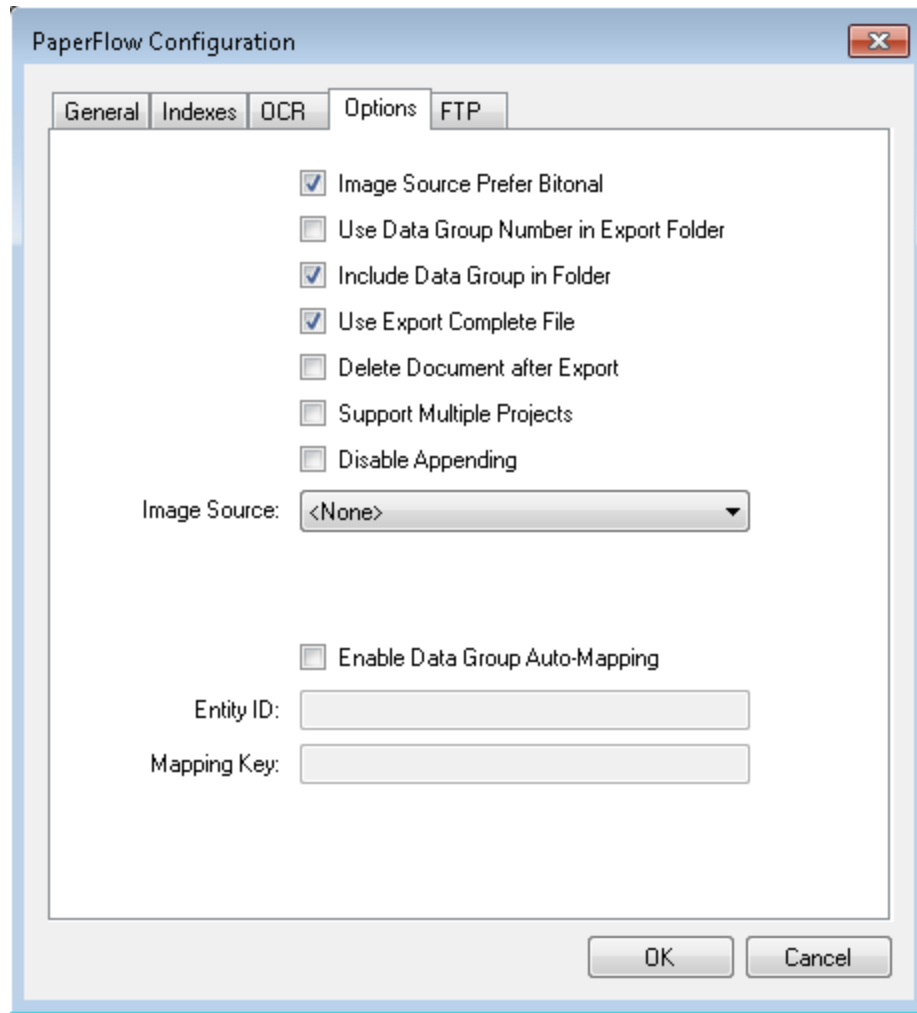


PaperFlow OCR Configuration

2. **OCR Converter:** Select the type of converter needed for this job:
 - **None** - No OCR output will be generated.
 - **PaperFlow** - Outputs a PaperFlow OCR data file with images and full-text OCR data file.
3. Click the **Configure** button to select the applicable options. Click the [Full-Text OCR Configuration](#) topic for more information.

PaperFlow - Options

1. Click the **Options** tab. When you configure the properties in the **Options** tab, you can modify constant values that appear in the resulting export script.



PaperFlow Configuration - Options

2. Select the appropriate options. Properties and resulting script constants that are available for configuration are described below:
 - **Image Source Prefer Bitonal:** This property is applicable to dual-stream scanners and determines whether to export bitonal or color images. When set to True, which is the default setting, bitonal images will be exported. Script constant: IMG_SRC_PREFER_BITONAL_IMAGES
 - **Use Data Group Number in Export Folder:** When set to **True**, the parent export directory will be organized by data group name instead of export number. Script constant: USE_DATAGROUP_NUMBER_IN_EXPORT_FOLDER
 - **Include Data Group in Folder:** When set to **True** (default setting), a folder named "DATAGRP" is created under the directory in which the export data is copied (e.g., <root>\<export#>\DATAGRP\<export data>). When set to False, the "DATAGRP" folder is not created. Script constant: INCLUDE_DATAGROUP_IN_FOLDER
 - **Use Export Complete File:** This property, set to True by default, generates an "export.complete" file once an export has reached its maximum file size, so data will no longer be appended to the export.

When set to False, the "export.complete" file is not generated, so data may be appended to export folders that have not reached their maximum size. Script constant: USE_EXPORT_COMPLETE_FILE

- **Delete Document After Export:** This property specifies whether documents are deleted after they have been exported (set to **False** by default). Script constant: DELETE_DOCUMENT_AFTER_EXPORT
- **Support Multiple Projects:** When set to **True**, multiple Department IDs will be exported to the same folder, creating a single MDB file. When set to **False** (default setting), one Department ID will be exported to a single folder. Script Constant: SUPPORT_MULTIPLE_PROJECTS
- **Disable Appending:** This property is set to False by default. When set to True, exported images will not be appended to export folders whose maximum file sizes have not been reached. Script constant: DISABLE_APPENDING
- **Image Source:** This property determines whether original images (pre-image processing) or modified images (post-image processing) are used for the export. The Pre-Image Processing option uses the original image that has not been modified by image processing, and the Post-Image Processing option uses the image that has been modified by image processing. The default selection, <None>, uses the most recent image prior to exporting. Script constant: IMG_SRC
- **Enable Data Group Auto-Mapping:** This property determines whether data groups exported from PaperFlow are automatically mapped to a specific entity in PaperVision Enterprise or ImageSilo. When this check box is selected, a data group mapping file is created that contains the entity ID, and the mapping key-encrypted data group name. Specify the following options:
 - **Entity ID** - Type the applicable PaperVision Enterprise or ImageSilo entity ID to which you want to map the data group.
 - **Mapping Key** - Type an encryption key name that will be used to encrypt the data group when exporting, and used to decrypt the data group when importing into PaperVision Enterprise or ImageSilo. This key ensures that only data groups that have been mapped by trusted sources are automatically imported into PaperVision Enterprise or ImageSilo. This value must also be added to PaperVision Enterprise or ImageSilo prior to importing the data group. Please refer to the *PaperVision Enterprise Administration Guide* for more information on entering the mapping key value into PaperVision Enterprise or ImageSilo.

3. When you have finished configuring the export, click **OK**.

PaperFlow - FTP

The PaperFlow and ImageSilo/PVE XML exports contain FTP settings that enable you to securely transfer data to FTP sites. Original data files can be transferred in their original state, or they can be placed in a compressed package file. In the Auto Process page, the FTP Enabled option will be selected after you have configured the PaperFlow or ImageSilo/PVE XML export for FTP. When you configure properties in the FTP tab, you can modify constant values that appear in the resulting export script.

PaperFlow Configuration

General Indexes OCR Options **FTP**

Host:

Port:

Connection:

SSL Mode:

Username:

Password:

Path:

Compare Last Modified Date

Delete Source after Transfer

Create Compressed Package File

Entity ID:

Key Name:

Pass Phrase:

Enable FTP

PaperFlow Configuration - FTP

Properties and resulting script constants that are available for configuration are described below:

- **Host:** This property specifies the FTP host site name used for the export. Script constant: FTP_HOST
- **Port:** This property specifies the command port number that will be used to connect to the remote FTP server. FTP communications are typically initiated on port 21. Script constant: FTP_PORT
- **Connection:** This property specifies the type of connection that will be created. During an active connection, the remote FTP server specifies the data port number that will be used. During a passive connection, PaperFlow specifies the data port number that will be used. Script constant: FTP_CONNECTION
- **SSL Mode:** This export supports fully encrypted FTP communications using SSL (also known as FTPS). The remote FTP server must also support this feature in order to take advantage of the export's capabilities.
 1. **Automatic** SSL indicates that the server will use SSL encryption, but will attempt to automatically determine whether to use Implicit or Explicit SSL.
 2. **Implicit** SSL indicates that the SSL negotiation will start immediately after the FTP connection is established.

3. **Explicit** SSL indicates the connection will be established in plain text and then explicitly starts the SSL negotiation.
4. **None** (no SSL encryption) indicates that a standard FTP, non-encrypted session connection will be used.

Script constant: FTP_ENCRYPTION

- **Username:** This property specifies the user name that will be used to authenticate to the remote FTP server. Script constant: FTP_USERNAME
- **Password:** This property specifies the password that will be used to authenticate to the remote FTP server. Script constant: FTP_PASSWORD
- **Path:** This property specifies the folder name on the FTP site that stores the exported data. By default, this field is blank, and will write data to the user's home directory as specified by the FTP server.

For example, other possible paths include the following:

- / (root)
- FolderA (subdirectory under home directory)
- /FolderA (subfolder under root path)

Script constant: FTP_PATH

- **Compare Last Modified Date:** For an operation type related to data groups or package files, the agent will automatically record the last modified date of the file that is being processed. When the same job is processed (and potentially the same file), the last modified date of the previous run is compared to the current, last modified date. If the file has not changed, it will not be processed again.

For data group processing, this will also allow users to perform incremental data group processing. Once the data group has been changed, any data group files (i.e., images) that have a modified date/time greater than or equal to the previous run's database (i.e., DATAGRP.MDB or DATAGRP.XML) last modified date/time will be processed. Script constant: FTP_COMPARE_LAST_MODIFIED_DATE

- **Delete Source After Transfer:** Once the data has been successfully transferred, this property allows the agent to delete the source data. Script constant: FTP_DELETE_SOURCE_AFTER_EXPORT
- **Create Compressed Package File:** When pushing data groups or files to a remote site, you can increase transfer speed by sending a single, large file rather than hundreds or thousands of small files. This option causes the agent to create a compressed package file that increases transfer speeds and security (if encryption is enabled). Script constant: FTP_ENABLE_PACKAGE
- **Entity ID:** When the export is configured to create compressed package files, the Entity ID and Encryption values are placed into the package file to allow the remote PaperFlow system to decrypt the data. This constant specifies the ID of the remote entity whose encryption key will be used to decrypt the package file. Script constant: FTP_ENTITY_ID
- **Key Name:** This property specifies the name of the encryption key used to decrypt the package file. Script constant: FTP_KEY_NAME
- **Pass Phrase:** For compressed package files, this property specifies a user-defined pass phrase that is passed through a SHA-2 algorithm (Secure Hashing Algorithm) to generate a 256-bit hash. Script constant: FTP_PASS_PHRASE
- **Enable FTP:** This property specifies whether FTP has been enabled for the export. Script constant: FTP_ENABLE

Testing FTP Connections

After you have configured the FTP settings, click the **Test Connection** button to ensure the connection is valid. If you successfully connected to the site, click **OK** in the **Success** prompt.

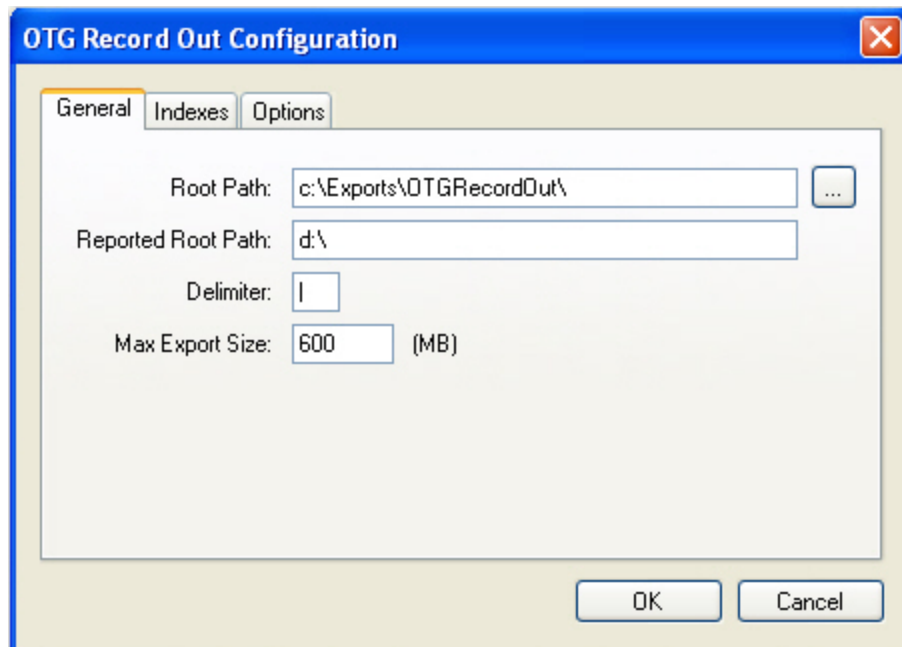
OTG Record Out

The OTG Record Out export creates a valid OTG Record file and its associated images. This can be imported into the OTG Application Extender system using the OTG RDS.

Note: Ensure that date formats for the PaperFlow job correspond with date formats configured in OTG and that all appropriate index values have been defined.

To configure the OTG Record Out export

1. From the **Select Custom Code Generator** dialog box, double-click the **OTG Record Out** export, and the tabbed **OTG Record Out Configuration** dialog box appears.



OTG Record Out Configuration - General

Default values, paths, and other default settings are provided for your reference, and drop-down menus contain only the options specific to your selected generator. In addition, you can browse to the appropriate directories instead of manually entering file paths.

2. Assign the appropriate properties in the **Indexes** and **Options** tabs. Descriptions for constant values appearing in the resulting export script are listed below.
3. When you have finished configuring the export, click **OK**.

OTG Record Out - General

When you configure properties in the General tab, you can modify constant values that appear in the resulting export script. Descriptions for each property are listed below.

- **Root Path:** This is the location where the exports will be created once you have started the automated process. Script constant: ROOT_PATH
- **Reported Root Path:** The path referenced in the export file originates from this location, not the ROOT_PATH. Script constant: REPORTED_ROOT_PATH

Note: If the Root Path is blank, the export will be written to the directory where the application was installed (e.g., C:\Program Files(x86)\Digitech Systems\PaperFlow.net). If the Reported Root Path is blank, the resulting export script will display a blank value for the REPORTED_ROOT_PATH.

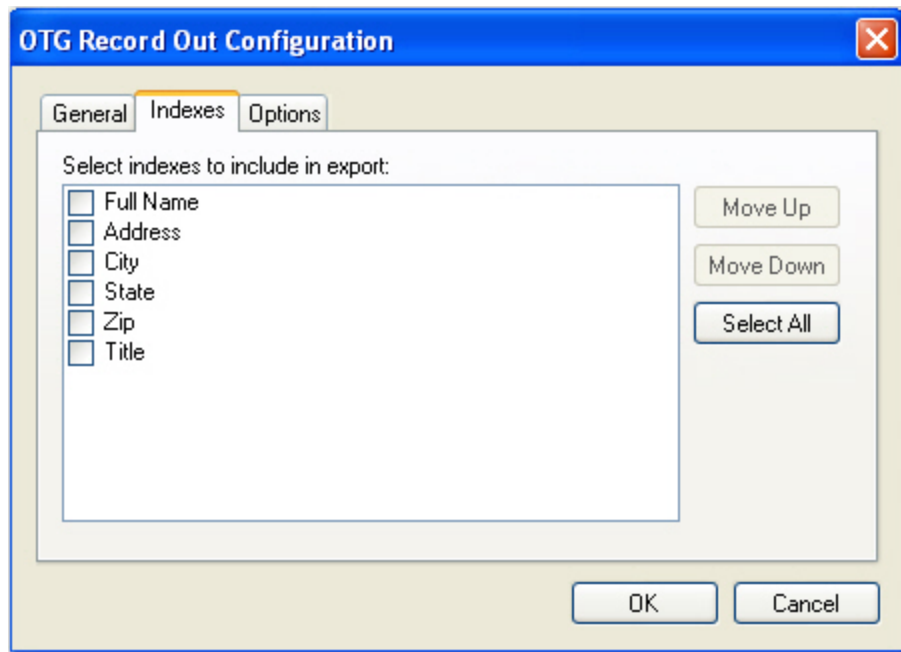
- **Delimiter:** This property specifies the character that will delimit index values in the export file. Script constant: DELIMITER
- **Max Export Size:** This property indicates the maximum export file size (in MB), which defaults to a value of "600". Script constant: MAX_EXPORT_SIZE

OTG Record Out - Indexes

1. In the Indexes tab, you can select the index values that will appear in the export by double-clicking within the appropriate check boxes. Alternatively, click the **Select All** button to include all indexes in the export. You can also click **Deselect All** to remove all selections. To change the order in which the indexes display, single-click an index name (to highlight it), and then click the **Move Up** or **Move Down** buttons.



Single-click an index name to move it up or down the list. Double-click an index name to include it in the export.

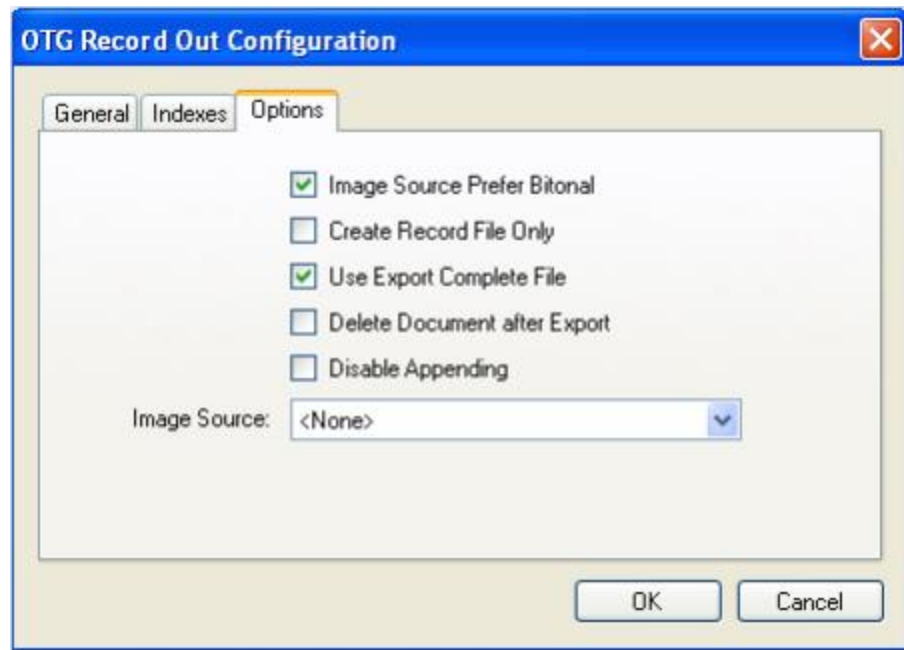


OTG Record Out Configuration - Indexes

2. To edit the indexes in the resulting export script, you can modify the INDICES_TO_INCLUDE constant, which is described below.
 - **Indices to Include:** Your selections determine what index values are included in the export file. In the script, enter the name of the index value(s) between quotation marks, and separate each index value with a comma. Script constant: INDICES_TO_INCLUDE
3. After making the appropriate selections, click **OK**.

OTG Record Out - Options

1. When you configure the properties in the Options tab, you can modify constant values that appear in the resulting export script.



OTG Record Out Configuration - Options

Properties and resulting script constants that are available for configuration are described below:

- **Image Source Prefer Bitonal:** This property is applicable to dual-stream scanners and determines whether to export bitonal or color images. When set to **True**, which is the default setting, bitonal images will be exported. Script constant: IMG_SRC_PREFER_BITONAL_IMAGES
- **Create Record File Only:** If set to **True**, a RECORD.TXT file will be created, but no images will be created during the export. Script Constant: CREATE_RECORD_FILE_ONLY
- **Use Export Complete File:** This property, set to **True** by default, generates an "export.complete" file once an export has reached its maximum file size, so data will no longer be appended to the export. When set to **False**, the "export.complete" file is not generated, so data may be appended to export folders that have not reached their maximum size. Script constant: USE_EXPORT_COMPLETE_FILE
- **Delete Document After Export:** This property specifies whether documents are deleted after they have been exported (set to **False** by default). Script constant: DELETE_DOCUMENT_AFTER_EXPORT
- **Disable Appending:** This property is set to **False** by default. When set to **True**, exported images will not be appended to export folders whose maximum file sizes have not been reached. Script constant: DISABLE_APPENDING
- **Image Source:** This property determines whether original images (pre-image processing) or modified images (post-image processing) are used for the export. The Pre-Image Processing option uses the original image that has not been modified by image processing, and the Post-Image Processing option uses the image that has been modified by image processing. The default selection, **<None>**, uses the most recent image prior to exporting. Script constant: IMG_SRC

2. After selecting the appropriate options, click **OK**.

Hyland OnBase

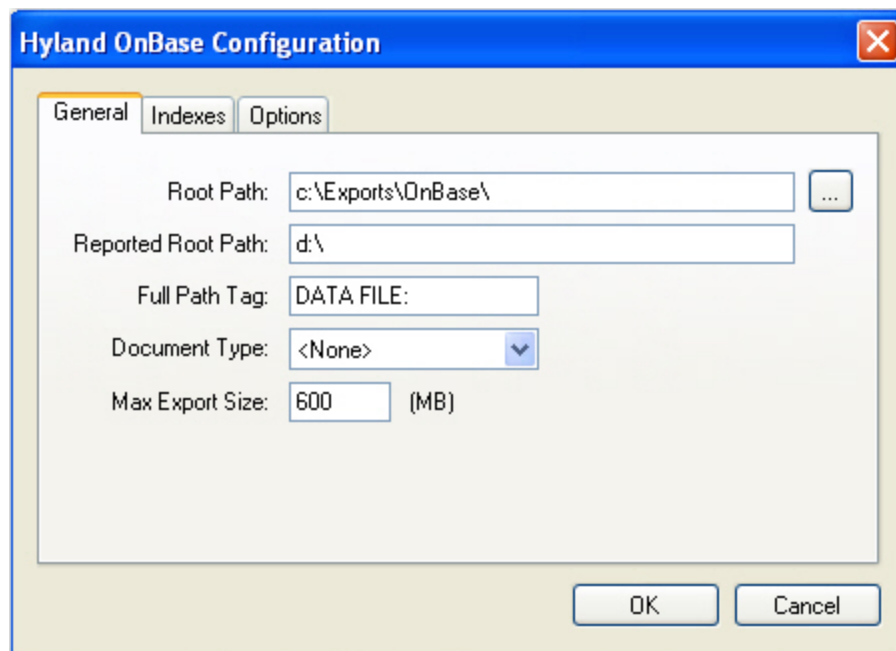
The Hyland OnBase export creates an ASCII text file and single-page TIFF images that can be imported into the Hyland OnBase system. The following settings must be configured in the Hyland OnBase system prior to importing any PaperFlow exports:

- The Document Import Processor separator must be set to **New Line**.
- The field delimiter must be set to **None**.
- The field type must be set to **Tagged Fields**.

Note: If the PaperFlow job contains dates, the Hyland OnBase date format settings must match the date field format for that job.

To configure the Hyland OnBase export

1. From the **Select Custom Code Generator** dialog box, double-click the Hyland OnBase export, and the tabbed **Hyland OnBase Configuration** dialog box appears.



Hyland OnBase Configuration

Default values, paths, and other default settings are provided for your reference, and drop-down menus contain only the options specific to your selected generator. In addition, you can browse to the appropriate directories instead of manually entering file paths.

2. Assign the appropriate properties in the **Indexes** and **Options** tabs. Descriptions for properties and constant values appearing in the resulting export script are listed below.
3. When you have finished configuring the export, click **OK**.

Hyland OnBase - General

When you configure properties in the General tab, you can modify constant values that appear in the resulting export script. Properties and resulting script constants that are available for configuration are described below:

- **Root Path:** This is the location where the exports will be created once you have started the automated process. Script constant: ROOT_PATH
- **Reported Root Path:** The path referenced in the export file originates from this location, not the ROOT_PATH. Script constant: REPORTED_ROOT_PATH
- **Full Path Tag:** This tag precedes the REPORTED_ROOT_PATH in the export file. Script constant: FULL_PATH_TAG
- **Document Type:** This is the specified field name for the index value that should populate the DOCUMENT_TYPE field in the export. Script constant: DOCUMENT_TYPE
- **Max Export Size:** This property indicates the maximum export file size (in MB), which defaults to a value of "600". Script constant: MAX_EXPORT_SIZE

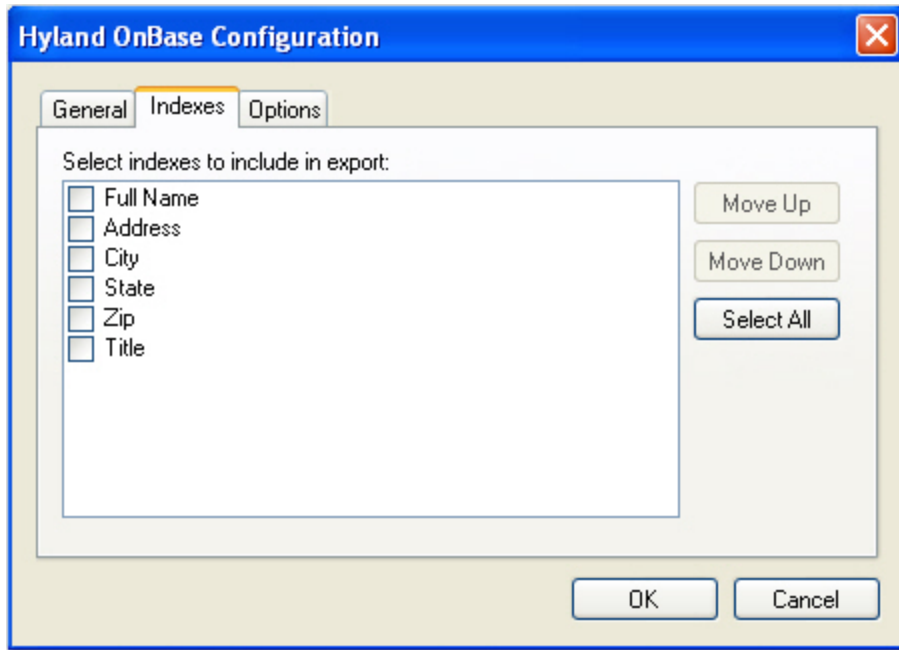
Note: If the Root Path is blank, the export will be written to the directory where the application was installed (e.g., C:\Program Files(x86)\Digitech Systems\PaperFlow.net). If the Reported Root Path is blank, the resulting export script will display a blank value for the REPORTED_ROOT_PATH.

Hyland OnBase - Indexes

In the Indexes tab, you can select the index values that will appear in the export by double-clicking within the appropriate check boxes. Alternatively, click the **Select All** button to include all indexes in the export. You can also click **Deselect All** to remove all selections. To change the order in which the indexes display, single-click an index name to highlight it, and then click the **Move Up** or **Move Down** buttons.



Single-click an index name to move it up or down the list. Double-click an index name to include it in the export.



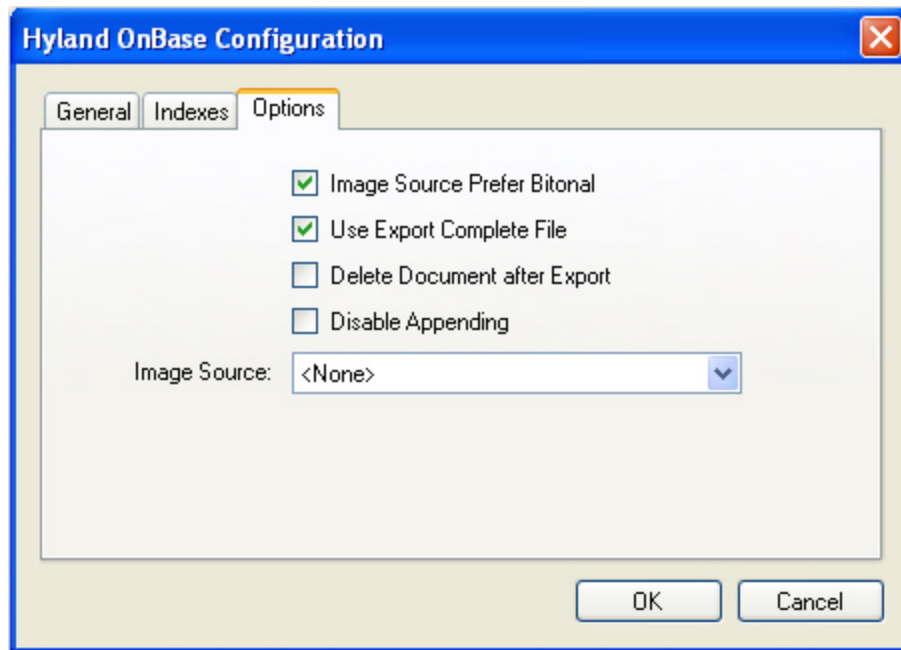
Hyland OnBase Configuration - Indexes

To edit the indexes in the resulting export script, you can modify the INDICES_TO_INCLUDE constant in the export script.

- **Indices to Include:** Your selections determine what index values are included in the export file. In the script, enter the name of the index value(s) between quotation marks, and separate each index value with a comma. Script constant: INDICES_TO_INCLUDE

Hyland OnBase - Options

When you configure properties in the Options tab, you can modify constant values that appear in the resulting export script.



Hyland OnBase Configuration - Options

Properties and resulting script properties that are available for configuration are described below:

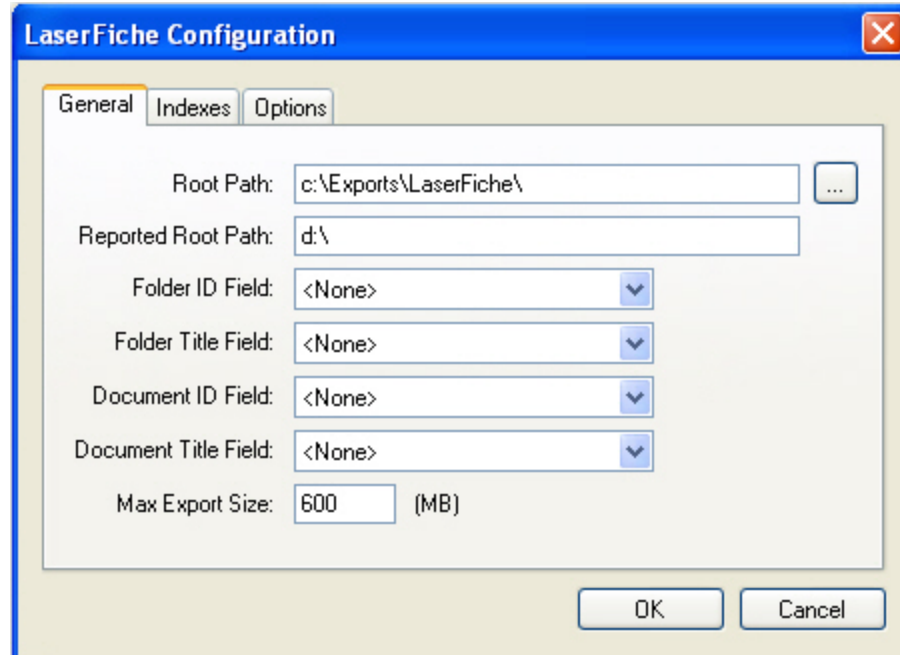
- **Image Source Prefer Bitonal:** This property is applicable to dual-stream scanners and determines whether to export bitonal or color images. When set to True, which is the default setting, bitonal images will be exported. Script constant: IMG_SRC_PREFER_BITONAL_IMAGES
- **Use Export Complete File:** This property, set to True by default, generates an "export.complete" file once an export has reached its maximum file size, so data will no longer be appended to the export. When set to False, the "export.complete" file is not generated, so data may be appended to export folders that have not reached their maximum size. Script constant: USE_EXPORT_COMPLETE_FILE
- **Delete Document After Export:** This property specifies whether documents are deleted after they have been exported (set to False by default). Script constant: DELETE_DOCUMENT_AFTER_EXPORT
- **Disable Appending:** This property is set to False by default. When set to True, exported images will not be appended to export folders whose maximum file sizes have not been reached. Script constant: DISABLE_APPENDING
- **Image Source:** This constant determines whether original images (pre-image processing) or modified images (post-image processing) are used for the export. The Pre-Image Processing option uses the original image that has not been modified by image processing, and the Post-Image Processing option uses the image that has been modified by image processing. The default selection, <None>, uses the most recent image prior to exporting. Script constant: IMG_SRC

LaserFiche

The Laser Fiche export creates an ASCII text file and single-page TIFF images that can be imported into the LaserFiche system using the LaserFiche List Import Feature.

To configure the LaserFiche export

1. From the **Select Custom Code Generator** dialog box, double-click the **LaserFiche** export, and the tabbed **LaserFiche Configuration** dialog box appears.



LaserFiche Configuration - General

Default values, paths, and other default settings are provided for your reference, and drop-down menus contain only the options specific to your selected generator. In addition, you can browse to the appropriate directories instead of manually entering file paths.

2. Assign the appropriate properties in the **Indexes** and **Options** tabs. Descriptions for each property are listed below.
3. When you have finished configuring the export, click **OK**.

LaserFiche - General

When you configure properties in the General tab, you can modify constant values that appear in the resulting export script. Descriptions for each property are listed below.

- **Root Path:** This is the location where the exports will be created once you have started the automated process. Script constant: ROOT_PATH
- **Reported Root Path:** The path referenced in the export file originates from this location, not the ROOT_PATH. Script constant: REPORTED_ROOT_PATH

Note: If the Root Path is blank, the export will be written to the directory where the application was installed (e.g., C:\Program Files(x86)\Digitech Systems\PaperFlow.net). If the Reported Root Path is blank, the resulting export script will display a blank value for the REPORTED_ROOT_PATH

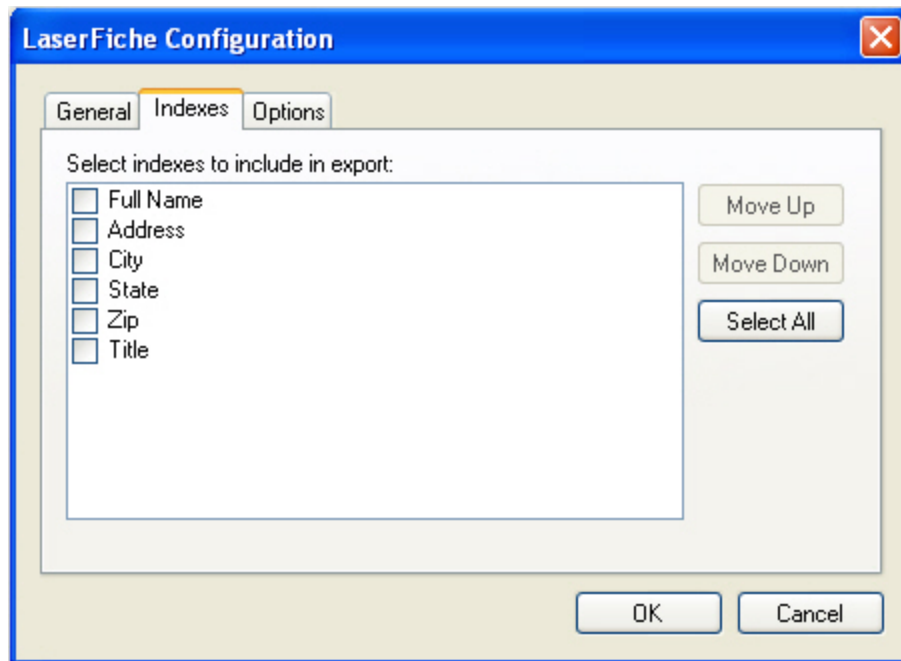
- **Folder ID Field:** This field name specifies the index value that populates the FOLDER ID field in the export. Script constant: FOLDER_ID_FIELD_NAME
- **Folder Title Field:** This field name specifies the index value that populates the FOLDER TITLE field in the export. Script constant: FOLDER_TITLE_FIELD_NAME
- **Document ID Field:** This field name specifies the index value that populates the DOCUMENT ID field in the export. Script constant: DOCUMENT_ID_FIELD_NAME
- **Document Title Field:** This field name specifies the index value that populates the DOCUMENT TITLE field in the export. Script constant: DOCUMENT_TITLE_FIELD_NAME
- **Max Export Size:** This property indicates the maximum export file size (in MB), which defaults to a value of "600." Script constant: MAX_EXPORT_SIZE

LaserFiche - Indexes

In the Indexes tab, you can select the index values that will appear in the export by double-clicking within the appropriate check boxes. Alternatively, click the **Select All** button to include all indexes in the export. You can also click **Deselect All** to remove all selections. To change the order in which the indexes display, single-click an index name (to highlight it), and then click the **Move Up** or **Move Down** buttons.



Single-click an index name to move it up or down the list. Double-click an index name to include it in the export.



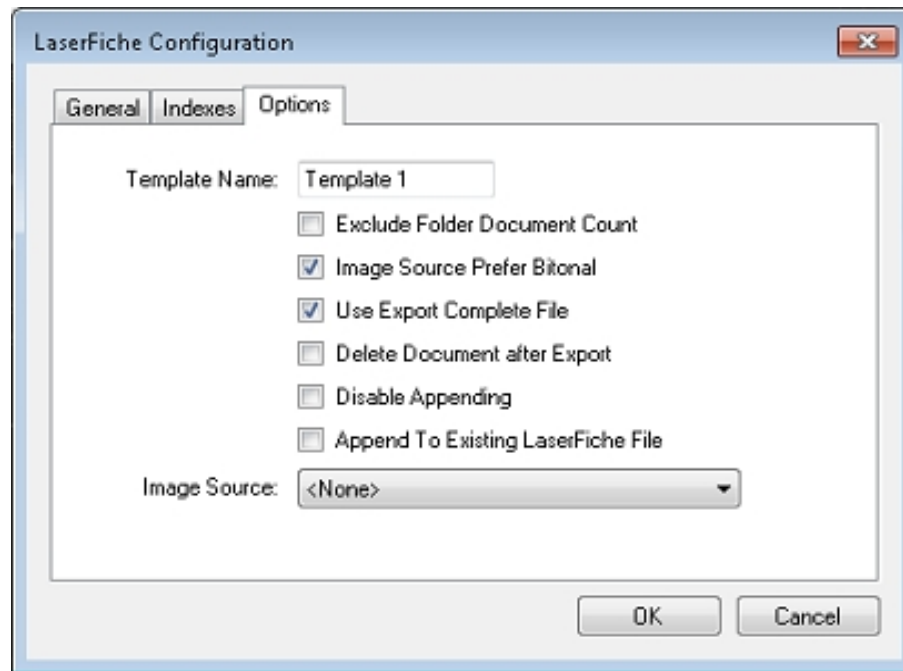
LaserFiche Configuration - Indexes

1. To edit the indexes in the resulting export script, you can modify the INDICES_TO_INCLUDE constant described below.

- **Indices to Include:** Your selections determine what index values are included in the export file. In the script, enter the name of the index value(s) between quotation marks, and separate each index value with a comma. Script constant: INDICES_TO_INCLUDE

LaserFiche - Options

1. When you configure properties in the Options tab, the following constant values will appear in the resulting export script.



LaserFiche Configuration - Options

Properties and resulting script constants that are available for configuration are described below:

- **Template Name:** This specified value will populate the TEMPLATE NAME field in the export. Script constant: TEMPLATE_NAME
- **Exclude Folder Document Count:** When set to **True**, an incrementing number can be appended to the FOLDER line of the export. It will increment from 1 to 2, etc, for each new document. If set to **False**, no numbers are appended to the FOLDER line of the export. Script constant: EXCLUDE_FOLDER_DOCUMENT_COUNT
- **Image Source Prefer Bitonal:** This property is applicable to dual-stream scanners and determines whether to export bitonal or color images. When set to **True**, which is the default setting, bitonal images will be exported. Script constant: IMG_SRC_PREFER_BITONAL_IMAGES
- **Use Export Complete File:** This property, set to **True** by default, generates an "export.complete" file once an export has reached its maximum file size, so data will no longer be appended to the export. When set to **False**, the "export.complete" file is not generated, so data may be appended to export folders that have not reached their maximum size. Script constant: USE_EXPORT_COMPLETE_FILE
- **Delete Document After Export:** This property specifies whether documents are deleted after they have been exported (set to **False** by default). Script constant: DELETE_DOCUMENT_AFTER_EXPORT

- **Disable Appending:** This property is set to **False** by default. When set to **True**, exported images will not be appended to export folders whose maximum file sizes have not been reached. Script constant: `DISABLE_APPENDING`
 - **Append To Existing LaserFiche File:** Select this option if you want to append batches to the existing LaserFiche export file (.LST). This option is disabled by default. Script constant: `APPEND_TO_EXISTING_EXPORT_FILE`
 - **Image Source:** This property determines whether original images (pre-image processing) or modified images (post-image processing) are used for the export. The Pre-Image Processing option uses the original image that has not been modified by image processing, and the Post-Image Processing option uses the image that has been modified by image processing. The default selection, <None>, uses the most recent image prior to exporting. Script constant: `IMG_SRC`
2. After selecting the appropriate options, click **OK**.

ImageSilo/PVE Direct

The ImageSilo/PVE Direct export creates an export that can be used to add documents to an existing project in ImageSilo or PaperVision Enterprise.

To configure the ImageSilo/PVE Direct export

1. From the **Select Custom Code Generator** dialog box, double-click the **ImageSilo/PVE Direct** export, and the **ImageSilo Connection** dialog box appears.

ImageSilo Connection Dialog Box

The connection information you provide will be part of the export. Specify the following properties.

- **Entity ID:** Type the Entity ID to which you want to connect.
 - **Host Address:** Type the URL of the ImageSilo instance to which you want to connect.
 - **Username:** Type your ImageSilo username.
 - **Password:** Type your ImageSilo password.
2. Click **OK** to connect to ImageSilo and open the **PVE/ImageSilo Direct Configuration** dialog box.
 3. Proceed to the **General**, **Indexes**, and **Options**, tabs to modify the appropriate properties. Descriptions for constant values appearing in the resulting export script are listed below.
 4. When you have finished configuring the export, click **OK**.
 5. Default values, paths, and other properties are provided for your reference, and drop-down menus

contain options specific to your selected generator. In addition, you can browse to some directories or manually enter file paths. Descriptions for all properties are listed below.

ImageSilo/PVE Direct - General

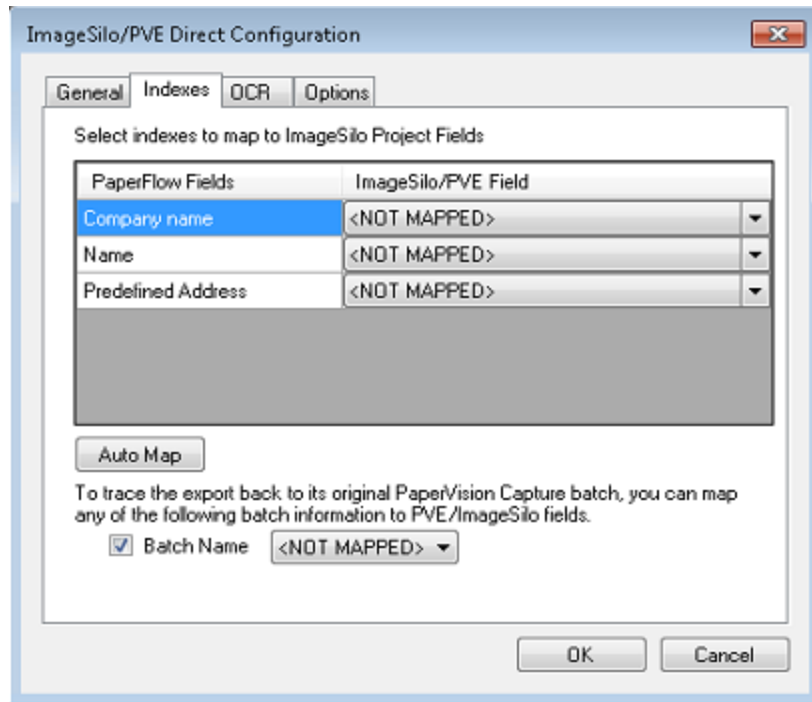
When you configure properties in the General tab, you can modify constant values that appear in the resulting export script. Descriptions for each property are listed below.

ImageSilo/PVE Direct Configuration - General

- **Connection:** The connection information is displayed in the **Connection** area. If you want to change the connection properties, click **Change connection settings** to open the **ImageSilo Connection** dialog box.
- **Project:** The project list contains only projects that you are authorized to access. Click the down arrow to open the project list, and then select the project to which you want to add documents.

ImageSilo/PVE Direct - Indexes

On the **Indexes** tab, you can map PaperFlow indexes to indexes in the ImageSilo project you selected. You must map at least one PaperFlow index to an index in the ImageSilo project.



ImageSilo/PVE Direct Configuration - Indexes

1. (Optional) Click **Auto Map** to map any PaperFlow indexes that match ImageSilo indexes.

NOTE: If you have already mapped indexes, this may override some of your selections.

2. In the **PaperFlow Fields** column, select the PaperFlow index you want to map.
3. Click the down arrow in the **ImageSilo Field** column, and then select the ImageSilo index from the list.

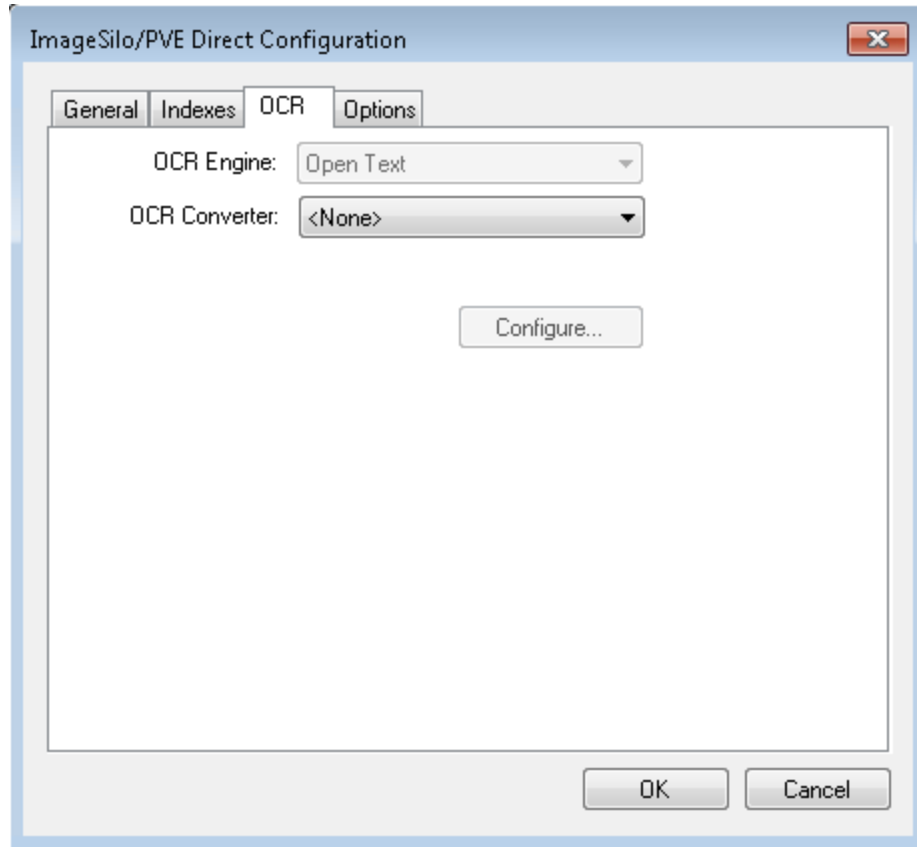
NOTE: All of the indexes in the ImageSilo project you selected are available in the list. If you select an index that is already mapped, that index will map to your current selection, and the PaperFlow index to which it was previously mapped will revert to **<NOT MAPPED>**.

4. Repeat steps 2 and 3 until you have completed mapping all the PaperFlow indexes to ImageSilo indexes that you need.
5. (Optional) You can map the Batch Name to an ImageSilo/PVE index field. This is useful if you want to be able to trace a document in ImageSilo/PVE back to the PaperFlow batch from which it was imported.

Select **Batch Name**, and then select the ImageSilo/PVE index field from the list to which you want to map the Batch Name.

ImageSilo/PVE Direct - OCR

1. When you select the **OCR Converter** in the **OCR** tab, you can modify the constant value (described below) that appears in the resulting export script.

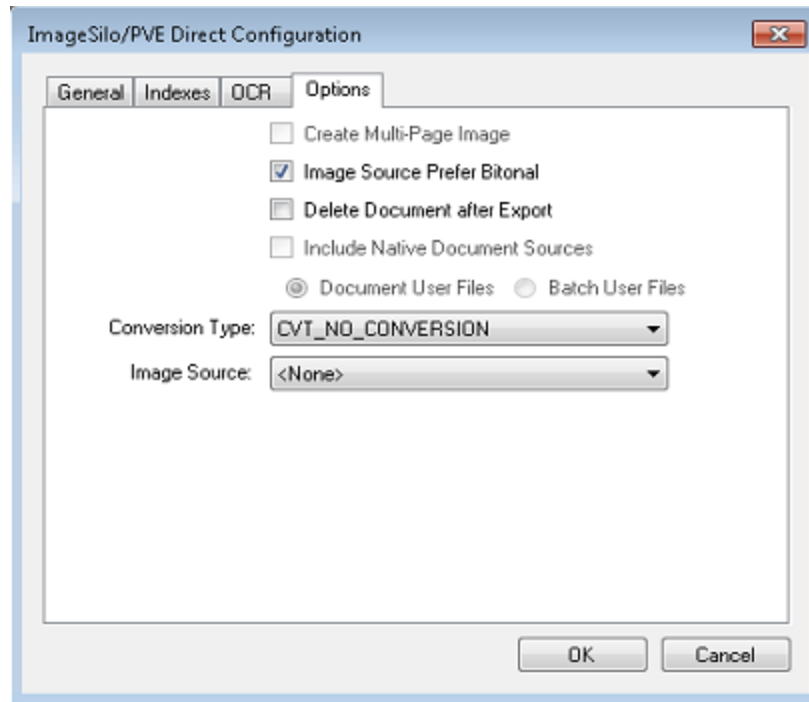


ImageSilo/PVE XML Configuration - OCR

2. **OCR Converter** : Select the type of converter needed for this job:
 - **None** - No OCR output will be generated.
 - **PaperVision Enterprise** - Outputs a PaperVision Enterprise OCR data file with images and full-text OCR data file.
 - **PDF** - Outputs a PDF OCR data file with full-text OCR data.
 Script constant: OCR_CONVERTER_CODE
3. Click **Configure** to open the **Edit PV Full-Text OCR Settings** window. See the [Full-Text OCR Configuration](#) topic for more information.

ImageSilo/PVE Direct - Options

When you configure the properties in the Options tab, you can modify constant values that appear in the resulting export script. Descriptions for each property are listed below.



ImageSilo/PVE Direct Configuration - Options

- **Create Multi-Page Image:** Used in conjunction with Conversion Type, this constant determines whether exported images are single-page or multi-page. Script constant: CREATE_MULTI_PAGE_IMAGE
- **Image Source Prefer Bitonal:** This property is applicable to dual-stream scanners and determines whether to export bitonal or color images. When set to **True**, which is the default setting, bitonal images will be exported. Script constant: IMG_SRC_PREFER_BITONAL_IMAGES
- **Delete Document After Export:** This property specifies whether documents are deleted after they have been exported (set to **False** by default). Script constant: DELETE_DOCUMENT_AFTER_EXPORT
- **Include Native Document Sources:** PaperFlow does not support Native Document Sources.
- **Conversion Type:** This property determines the type of image file created during the export. The default value, CVT_NO_CONVERSION, does not convert images during the export. If exporting to a format that supports both single and multi-page images, you must set the CREATE_MULTI_PAGE_IMAGE constant to **True** if you want to create multi-page images; otherwise single page images will result. For example, if you set this to CVT_TIFF_G4_MEDJPG, a TIFF image is created during the export. If the source image is binary, it will create a TIFF using Group 4 compression; if the source image is color (JPG or BMP), it will create a TIFF using Medium JPEG compression. For a list of file types that can be converted to during the export, see the Enumerations section in the Custom Code Configuration topic. Script constant: CONVERSION_TYPE

NOTE: The JPG2000 conversion type can only be used for single-page documents.

- **Image Source:** This property determines whether original images (pre-image processing) or modified images (post-image processing) are used for the export. The Pre-Image Processing option uses the original

image that has not been modified by image processing, and the Post-Image Processing option uses the image that has been modified by image processing. The default selection, <None>, uses the most recent image prior to exporting. Script constant: IMG_SRC

Image Only

The Image Only export creates image files that are named after a specific index field. Any subdirectories containing those image files are named after other index fields (optional). Single-page image file formats will be names with an "-X" at the end of the file name where "X" denotes the page number.

To configure the Image Only export

1. From the **Select Custom Code Generator** dialog box, double-click the **Image Only** generator, and the tabbed **Image Only Configuration** dialog box appears

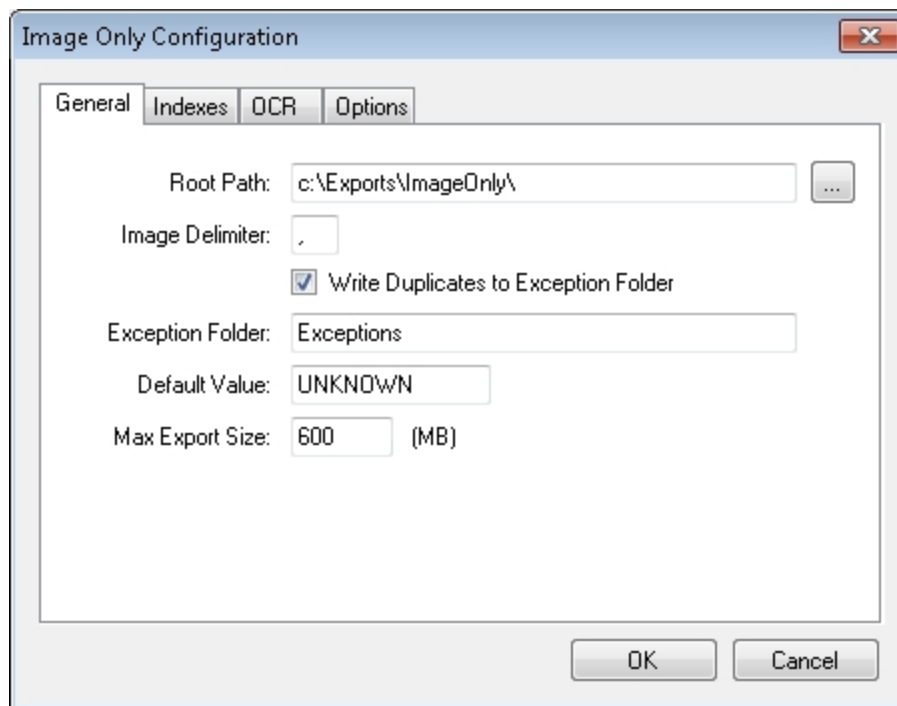


Image Only Configuration - General

Default values, paths, and other default settings are provided for your reference, and drop-down menus contain only the options specific to your selected generator. In addition, you can browse to the appropriate directories instead of manually entering file paths.

2. Assign the appropriate properties in the **Indexes** and **Options** tabs. Descriptions for constant values appearing in the resulting export script are listed below.
3. When you have finished configuring the export, click **OK**.

Image Only - General

When you configure properties in the General tab, you can modify constant values that appear in the resulting export script. Properties and resulting script constants that are available for configuration are described below:

- **Root Path:** This is the location where the exports will be created once you have started the automated process. Script constant: ROOT_PATH
- **Image Delimiter:** This customizable delimiter separates images when exporting using multi-line indexing and converting to single-page images. Script constant: IMAGE_DELIMITER
- **Write Duplicates to Exception Folder:** If duplicate files are created in the same directory during the export and this is set to **False**, PaperFlow will not copy the duplicate files into the EXCEPTION_FOLDER directory. If set to **True**, duplicate files are placed in the EXCEPTION_FOLDER instead. Script constant: WRITE_DUPLICATES_TO_EXCEPTION_FOLDER
- **Note:** Files in the EXCEPTION_FOLDER directory will display with "_#" appended to the file name, where "#" is a unique incrementing number starting with "1." This appending process prevents the exception files from being overwritten in the directory.
- **Exception Folder:** If WRITE_DUPLICATES_TO_EXCEPTION_FOLDER is **True** and multiple images with the same file name are created in the same directory, duplicates will be placed in this folder at the ROOT_PATH instead of overwriting the existing file of that name. Script constant: EXCEPTION_FOLDER
- **Default Value:** As the export script executes, invalid characters are stripped from index fields, possibly resulting in blank fields. By default, the resulting DEFAULT_VALUE for these blank fields is defined as "Unknown." Script constant: DEFAULT_VALUE
- **Max Export Size:** This property indicates the maximum export file size (in MB), which defaults to a value of "600." Script constant: MAX_EXPORT_SIZE

Note: If the Root Path is blank, the export will be written to the directory where the application was installed (e.g., C:\Program Files(x86)\Digitech Systems\PaperFlow.net).

Image Only - Indexes

1. In the Indexes tab, you can select the index values that will appear in the export by double-clicking within the appropriate check boxes. Alternatively, click the **Select All** button to include all indexes in the export. You can also click **Deselect All** to remove all selections. To change the order in which the indexes display, single-click an index name (to highlight it), and then click the **Move Up** or **Move Down** buttons.



Single-click an index name to move it up or down the list. Double-click an index name to include it in the export.

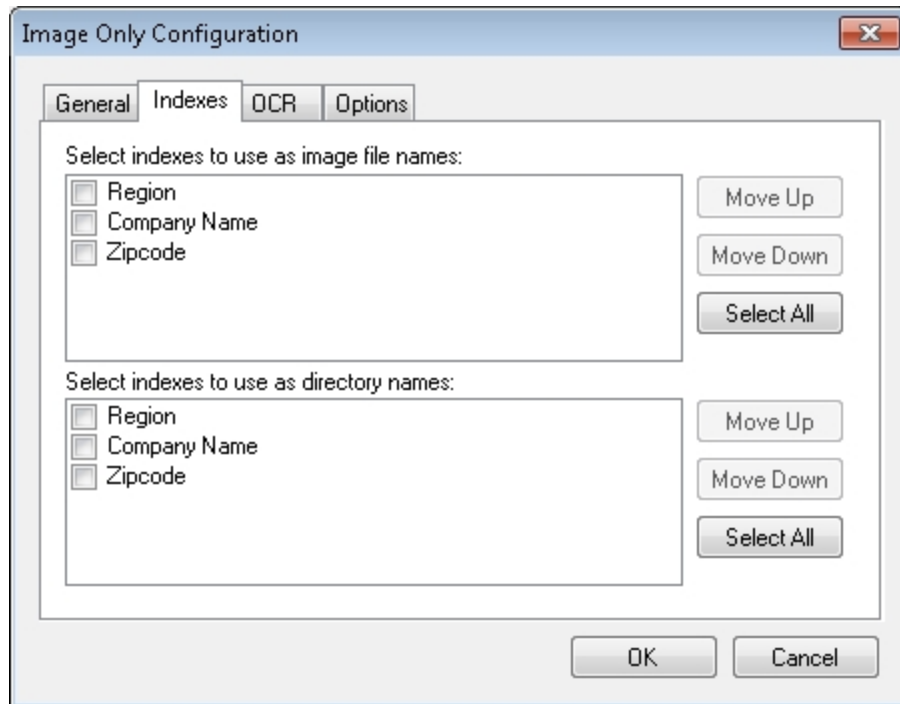


Image Only Configuration - Indexes

- To edit the indexes in the resulting export script, you modify the **IMAGE_INDICES** and **FOLDER_INDICES** constants, which are described below.

Important: Because image file names and directories are created based on selected indexes, index names should not contain characters that create invalid file or directory names.

Image Indices: Images created during the export will be named based on the index fields mapped in the **IMAGE_INDICES** field. If multiple index fields are mapped, the **IMAGE_DELIMITER** will be used to separate the fields in the name of the file. If no fields are mapped, it will use a standard 8-digit incrementing file name. Script constant: **IMAGE_INDICES**

Note: Image file names are pulled from a single index field configured in the **IMAGE_INDICES** field. Any subdirectories are also configured similarly. Index fields should not contain characters that create invalid file names or directory names.

Folder Indices: Images created during the export will be placed in named folders based on the **FOLDER_INDICES**. The first mapped field will match the first folder, the second mapped field will match the name of the subfolder, etc. If no fields are mapped, the images will be placed directly in the **ROOT_PATH**. Script constant: **FOLDER_INDICES**

Image Only - OCR

- When you select the OCR Converter in the OCR tab, you can modify the constant value that appears in the resulting export script.

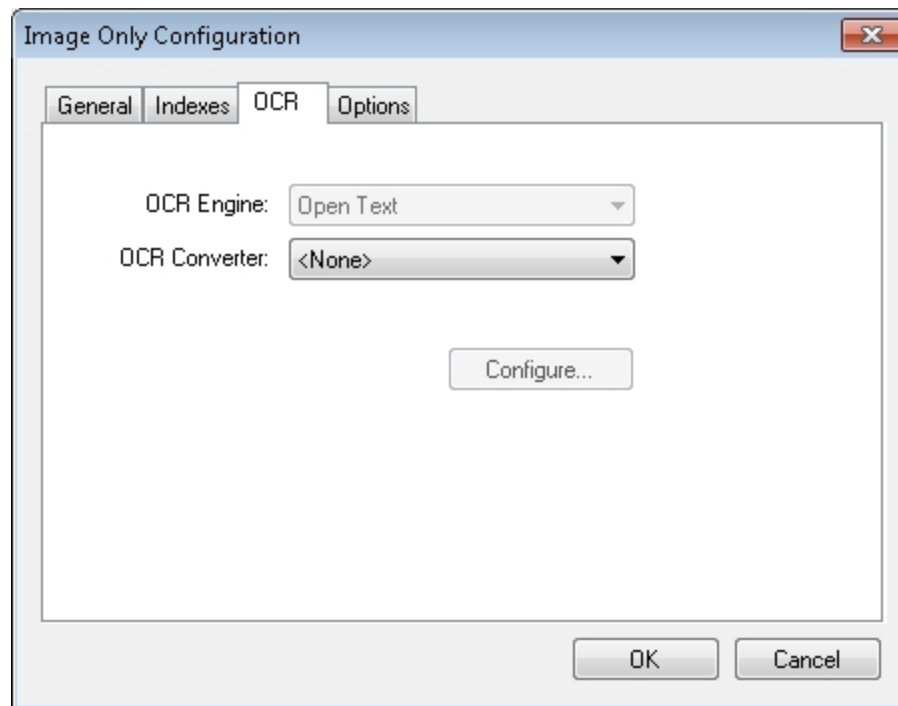


Image Only Configuration - OCR

2. **OCR Converter** : Select the type of converter needed for this job:
 - **None** - No OCR output will be generated.
 - **PaperFlow** - Outputs a PaperFlow OCR data file with images and full-text OCR data file.
 - **PaperVision Enterprise** - Outputs a PaperVision Enterprise OCR data file with images and full-text OCR data file.
 - **PDF** - Outputs a PDF OCR data file with full-text OCR data.
 - **Text** - Outputs a text data with OCR data file.
3. Click the **Configure** button to select the applicable options. Click the [Full-Text OCR Configuration](#) topic for more information.

Image Only - Options

1. When you configure the properties in the Options tab, you can modify constant values that appear in the resulting export script.

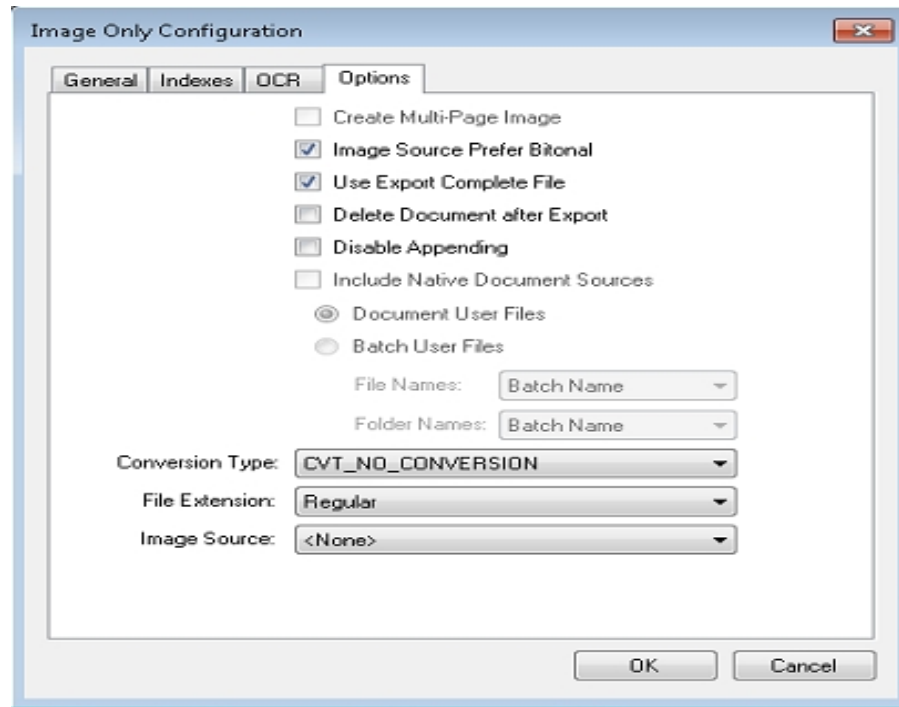


Image Only Configuration - Options

2. Properties and resulting script constants that are available for configuration are described below:

Create Multi-Page Image: Used in conjunction with CONVERSION_TYPE, this constant determines whether exported images are single-page or multi-page. Script constant: CREATE_MULTI_PAGE_IMAGE

Image Source Prefer Bitonal: This property is applicable to dual-stream scanners and determines whether to export bitonal or color images. When set to **True**, which is the default setting, bitonal images will be exported. Script constant: IMG_SRC_PREFER_BITONAL_IMAGES

Use Export Complete File: This property, set to **True** by default, generates an "export.complete" file once an export has reached its maximum file size, so data will no longer be appended to the export. When set to **False**, the "export.complete" file is not generated, so data may be appended to export folders that have not reached their maximum size. Script constant: USE_EXPORT_COMPLETE_FILE

Delete Document After Export: This property specifies whether documents are deleted after they have been exported (set to **False** by default). Script constant: DELETE_DOCUMENT_AFTER_EXPORT

Disable Appending: This property is set to **False** by default. When set to **True**, exported images will not be appended to export folders whose maximum file sizes have not been reached. Script constant: DISABLE_APPENDING

Include Native Document Sources: PaperFlow does not support Native Document Sources.

Conversion Type: This property determines the type of image file created during the export. The default value, CVT_NO_CONVERSION, does not convert images during the export. If exporting to a format that supports both single and multi-page images, you must set the CREATE_MULTI_PAGE_IMAGE constant to **True** if you want to create multi-page images; otherwise single page images will

result. For example, if you set this to CVT_TIFF_G4_MEDJPG, a TIFF image is created during the export. If the source image is binary, it will create a TIFF using Group 4 compression; if the source image is color (JPG or BMP), it will create a TIFF using Medium JPEG compression. See the Custom Code Configuration topic on Enumerations for more information. Script constant: CONVERSION_TYPE

File Extension: This property determines whether the file extension or page number will be assigned to the file type created during the export.

- **Regular:** This option uses the original file extension (.tif, .jpg, etc.).
- **Page number starting zero:** This option uses the page number for the file extension, starting with 0 (e.g., -0, -1, etc.).
- **Page number starting one:** This option uses the page number for file extension, starting with 1 (e.g., -1, -2, etc.).
- **Page number starting zero with padding:** This option uses the page number for file extension, starting with 000 (e.g., -000, -001, etc.).
- **Page number starting one with padding:** This option uses the page number for file extension, starting with 001 (e.g., -001, -002, etc.).

Script constant: FILE_EXTENSION

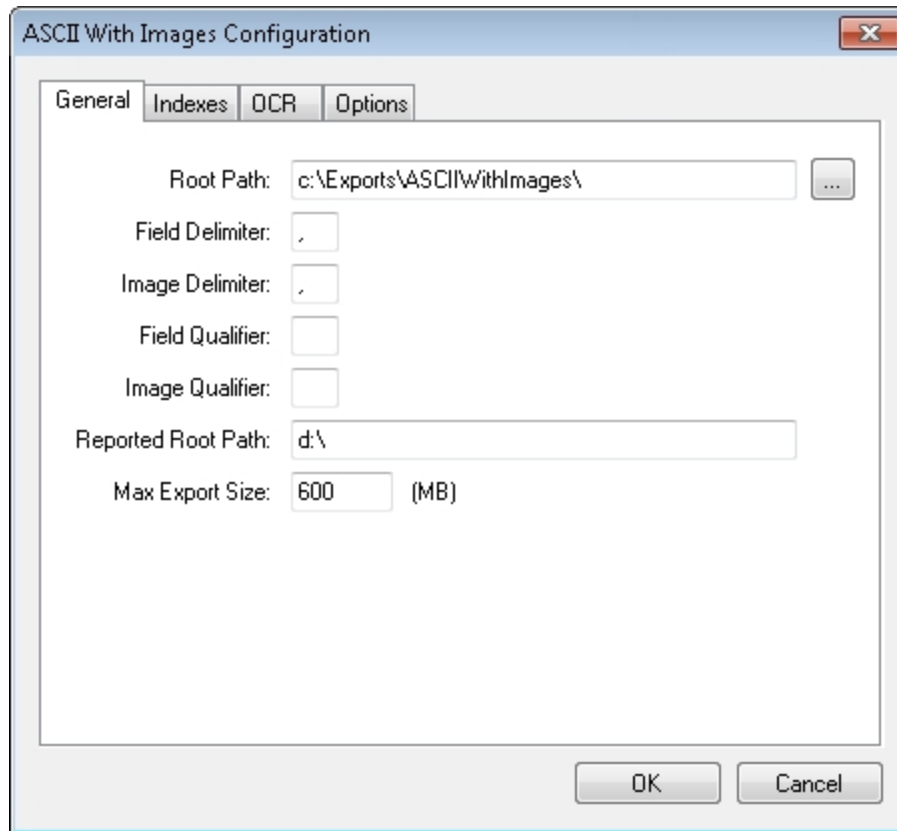
Image Source: This property determines whether original images (pre-image processing) or modified images (post-image processing) are used for the export. The Pre-Image Processing option uses the original image that has not been modified by image processing, and the Post-Image Processing option uses the image that has been modified by image processing. The default selection, <None>, uses the most recent image prior to exporting. Script constant: IMG_SRC

ASCII with Images

The ASCII with Images export creates an ASCII text file containing images that can be imported into other systems. The format of the file is completely customizable.

To configure the ASCII with Images export

1. From the **Select Custom Code Generator** dialog box, double-click the **ASCII with Images** export, and the tabbed **ASCII with Images Configuration - General** dialog box appears.



ASCII with Images Configuration - General

Default values, paths, and other default settings are provided for your reference, and drop-down menus contain only the options specific to your selected generator. In addition, you can browse to the appropriate directories instead of manually entering file paths.

2. Assign the appropriate properties in the **Indexes**, **OCR**, and **Options** tabs. Descriptions for constant values appearing in the resulting export script are listed below.
3. When you have finished configuring the export, click **OK**.

ASCII with Images - General

When you configure properties in the General tab, you can modify constant values that appear in the resulting export script. Properties and resulting script constants that are available for configuration are described below:

- **Root Path:** This property specifies the location where the exports will be created once you have started the automated process. Script constant: ROOT_PATH
- **Field Delimiter:** This customizable delimiter separates index values, page number/counts, and image sizes. Script constant: FIELD_DELIMITER
- **Image Delimiter:** This customizable delimiter separates images when exporting using multi-line indexing and converting to single-page images. Script constant: IMAGE_DELIMITER
- **Field Qualifier:** This property contains the characters that surround the field values. By default, quotation marks will appear. Script constant: FIELD_QUALIFIER

- **Image Qualifier:** This property contains the characters that surround the image values. By default, quotation marks will appear. Script constant: IMAGE_QUALIFER
 - **Reported Root Path:** The path referenced in the export file originates from this location, not the ROOT_PATH. Script constant: REPORTED_ROOT_PATH
 - **Max Export Size:** This property indicates the maximum export file size (in MB), which defaults to a value of "600". Script constant: MAX_EXPORT_SIZE
-

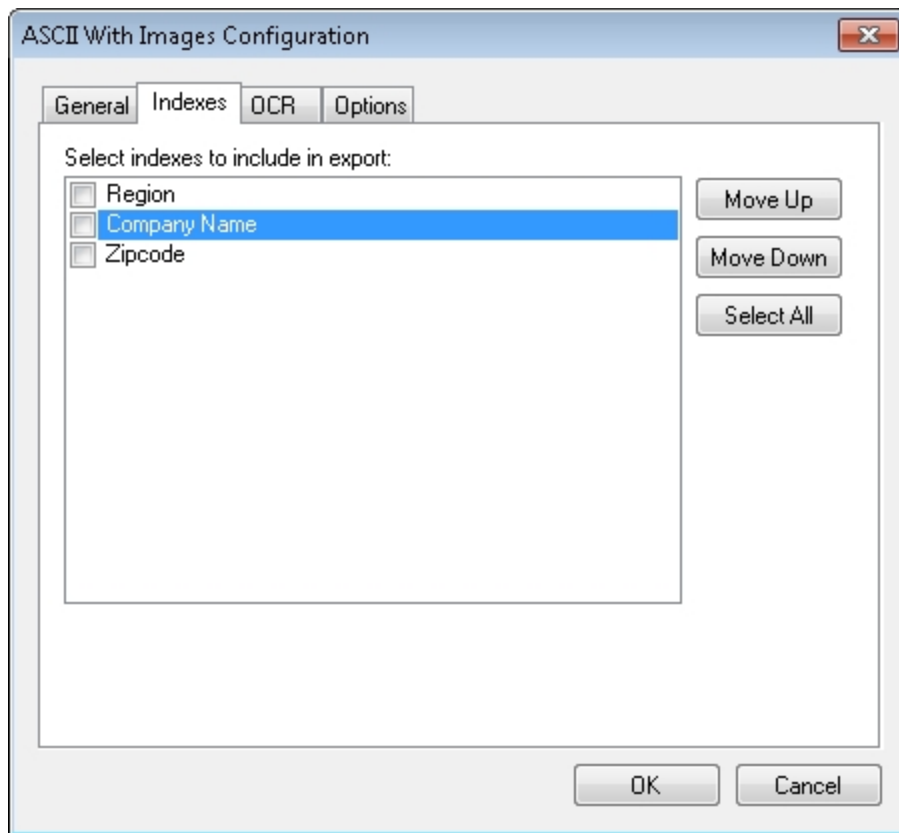
Note: If the Root Path is blank, the export will be written to the directory where the application was installed (e.g., C:\Program Files(x86)\Digitech Systems\PaperFlow.net). If the Reported Root Path is blank, the resulting export script will display a blank value for the REPORTED_ROOT_PATH.

ASCII with Image - Indexes

In the Indexes tab, you can select the index values that will appear in the export by double-clicking within the appropriate check boxes. Alternatively, click the **Select All** button to include all indexes in the export. You can also click **Deselect All** to remove all selections. To change the order in which the indexes display, single-click an index name (to highlight it), and then click the **Move Up** or **Move Down** buttons.



Single-click an index name to move it up or down the list. Double-click an index name to include it in the export.



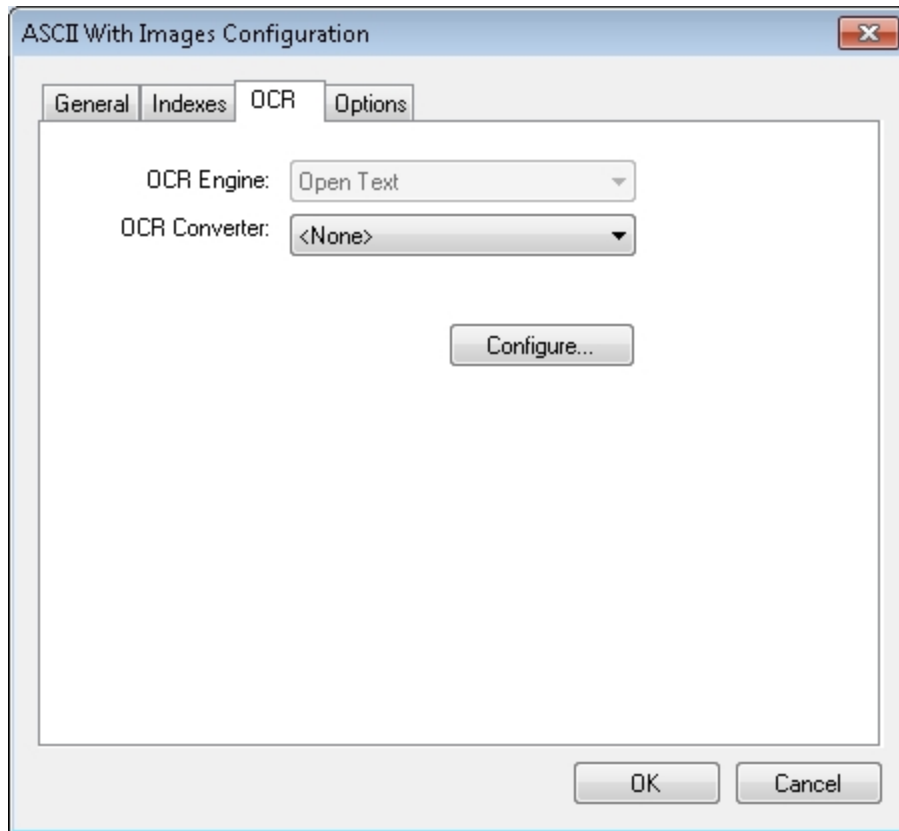
ASCII with Images Configuration - Indexes

To edit the indexes in the resulting export script, you can modify the INDICES_TO_INCLUDE constant in the export script:

- **Indices to Include:** Your selections determine what index values are included in the export file. If you leave this array blank, no indices are included. In the script, enter the name of the index value(s) between quotation marks, and separate each index value with a comma. Script constant: INDICES_TO_INCLUDE

ASCII with Images - OCR

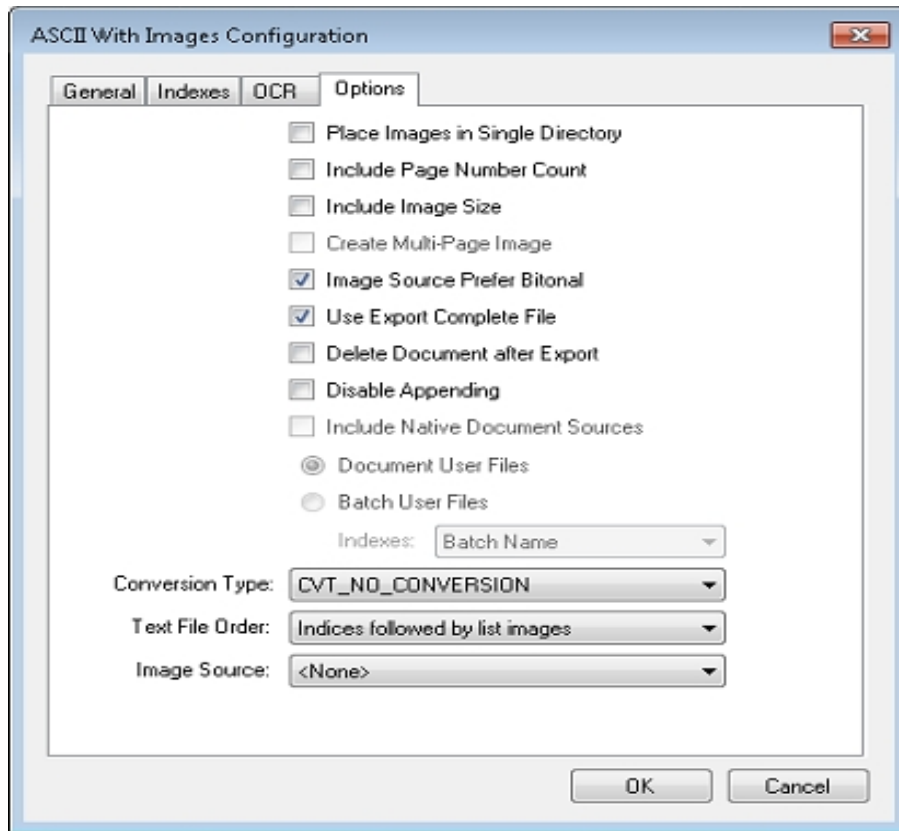
1. When you configure the properties in the OCR tab, you can modify constant values that appear in the resulting export script. Descriptions for each property are listed below.



ASCII with Images Configuration - OCR

2. **OCR Converter:** Select the type of converter needed for this job:
 - **None** - No OCR output will be generated.
 - **PaperFlow** - Outputs a PaperFlow OCR data file with images and full-text OCR data file.
 - **PaperVision Enterprise** - Outputs a PaperVision Enterprise OCR data file with images and full-text OCR data file.
 - **PDF** - Outputs a PDF OCR data file with full-text OCR data.
 - **Text** - Outputs a text data with OCR data file.
3. Click the **Configure** button to select the applicable options. Click the [Full-Text OCR Configuration](#) topic for more information.

ASCII with Images - Options - When you configure properties in the Options tab, you can modify constant values that appear in the resulting export script.



ASCII with Images Configuration - Options

Properties and resulting script constants that are available for configuration are described below:

- **Place Images in Single Directory:** If set to **False** (disabled), the images will be placed in subdirectories at the ROOT_PATH (maximum of 1000 images per directory). If set to **True** (enabled), the images will be placed directly in the ROOT_PATH folder. Script constant: PLACE_IMAGES_IN_SINGLE_DIR
- **Include Page Number Count:** This determines whether the page number or page count of the document should be added as an additional field in the export. If set to **False**, when exporting in a multi-line format and creating single-page images, this value will match the page number of the document. If set to **True**, the value will match the total number of pages in the document. Script constant: INCLUDE_PAGE_NUMBER_COUNT
- **Include Image Size:** This property determines whether the image file size is added as an additional field in the export. If set to **True**, this value will match the image size referenced on that line of the export file when exporting using a multi-line format and creating single-page images. If set to **False**, this value will match the size of the first page in the document. Script constant: INCLUDE_IMAGE_SIZE
- **Create Multi-Page Image:** Used in conjunction with CONVERSION_TYPE, this constant determines whether exported images are single-page or multi-page. Script constant: CREATE_MULTI_PAGE_IMAGE
- **Image Source Prefer Bitonal:** This property is applicable to dual-stream scanners and determines whether to export bitonal or color images. When set to **True**, which is the default setting, bitonal images will be exported. Script constant: IMG_SRC_PREFER_BITONAL_IMAGES

- **Use Export Complete File:** This property, set to **True** by default, generates an "export.complete" file once an export has reached its maximum file size, so data will no longer be appended to the export. When set to **False**, the "export.complete" file is not generated, so data may be appended to export folders that have not reached their maximum size. Script constant: USE_EXPORT_COMPLETE_FILE
- **Delete Document After Export:** This property specifies whether documents are deleted after they have been exported (set to **False** by default). Script constant: DELETE_DOCUMENT_AFTER_EXPORT
- **Disable Appending:** This property is set to **False** by default. When set to **True**, exported images will not be appended to export folders whose maximum file sizes have not been reached. Script constant: DISABLE_APPENDING
- **Include Native Document Sources:** PaperFlow does not support Native Document Sources.
- **Conversion Type:** This property determines the type of image file created during the export. The default value, CVT_NO_CONVERSION, does not convert images during the export. If exporting to a format that supports both single and multi-page images, you must set the CREATE_MULTI_PAGE_IMAGE constant to **True** if you want to create multi-page images; otherwise single page images will result. For example, if you set this to CVT_TIFF_G4_MEDJPG, a TIFF image is created during the export. If the source image is binary, it will create a TIFF using Group 4 compression; if the source image is color (JPG or BMP), it will create a TIFF using Medium JPEG compression. See the Custom Code Configuration topic on Enumerations for more information. Script constant: CONVERSION_TYPE
- **Text File Order:** This property determines how the export file is formatted. You can select from the following options:
 - a. Indices followed by last images: This option creates a single row for each document with indexes listed first, followed by image files.
 - b. List images followed by indices: This option creates a single row for each document with images listed first, followed by the index values.
 - c. Multi line indices followed by single image: This option creates one row of index values for every image created during the export. If multiple image files are created for a single document, multiple rows of identical index values will be created, each referencing a different page of the document. This will be formatted with index values followed by images.
 - d. Multi line images followed by indices: One row of index values for every image created during the export. If multiple image files are created for a single document, multiple rows of identical index values will be created, each referencing a different page of the document. This will be formatted with images followed by index values.

Script constant: TEXT_FILE_ORDER
- **Image Source:** This property determines whether original images (pre-image processing) or modified images (post-image processing) are used for the export. The Pre-Image Processing option uses the original image that has not been modified by image processing, and the Post-Image Processing option uses the image that has been modified by image processing. The default selection, **<None>**, uses the most recent image prior to exporting. Script constant: IMG_SRC

Data Entry Page Extraction Export Script for PaperFlow

The Data Entry Page Extraction Export Script for PaperFlow .NET allows customers to export specific documents and images from a batch and to send them to data entry facilities. The data entry facilities can

then create a test file that contains the necessary Index Fields values that will be used to automatically populate those values directly into the batch. The text file should contain the following format:

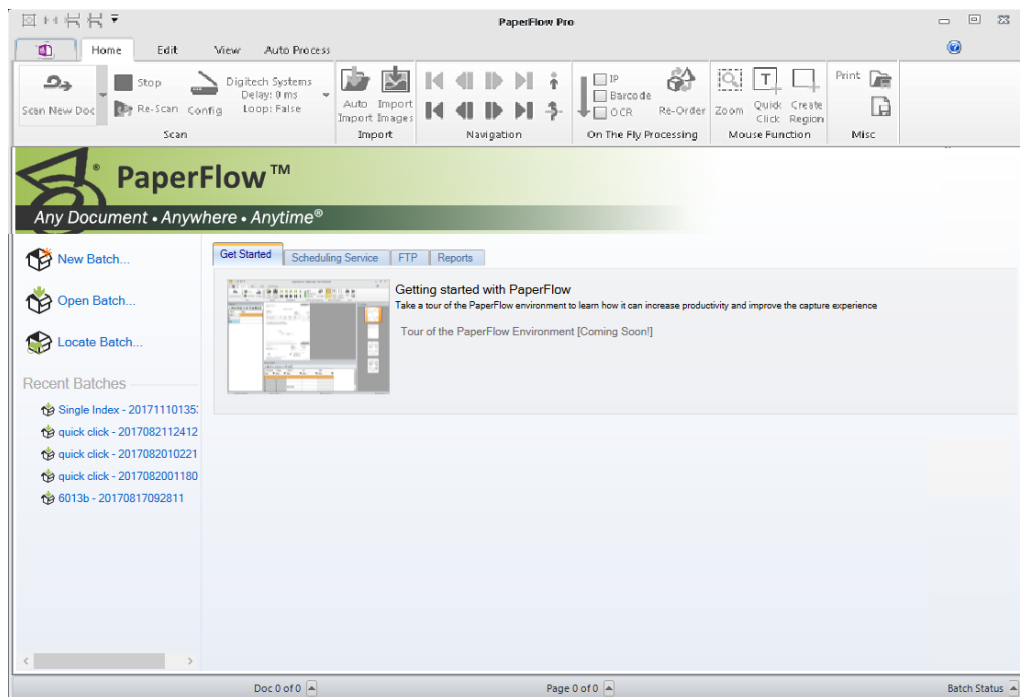
```
00000000|00000001.tif
```

```
00000001|00000003.tif
```

The numbers 00000000 and 00000001 represent the document number. The references 00000001.tif, and 00000003.tif indicate the names of the images that will be included in the export. A job and batch must first be created in PaperFlow (.NET) before configuring or executing this script. Please refer to the PaperFlow User Guide if needed to assist you with creating the necessary job and batch. Once the batch is created, scan any applicable documents into the batch.

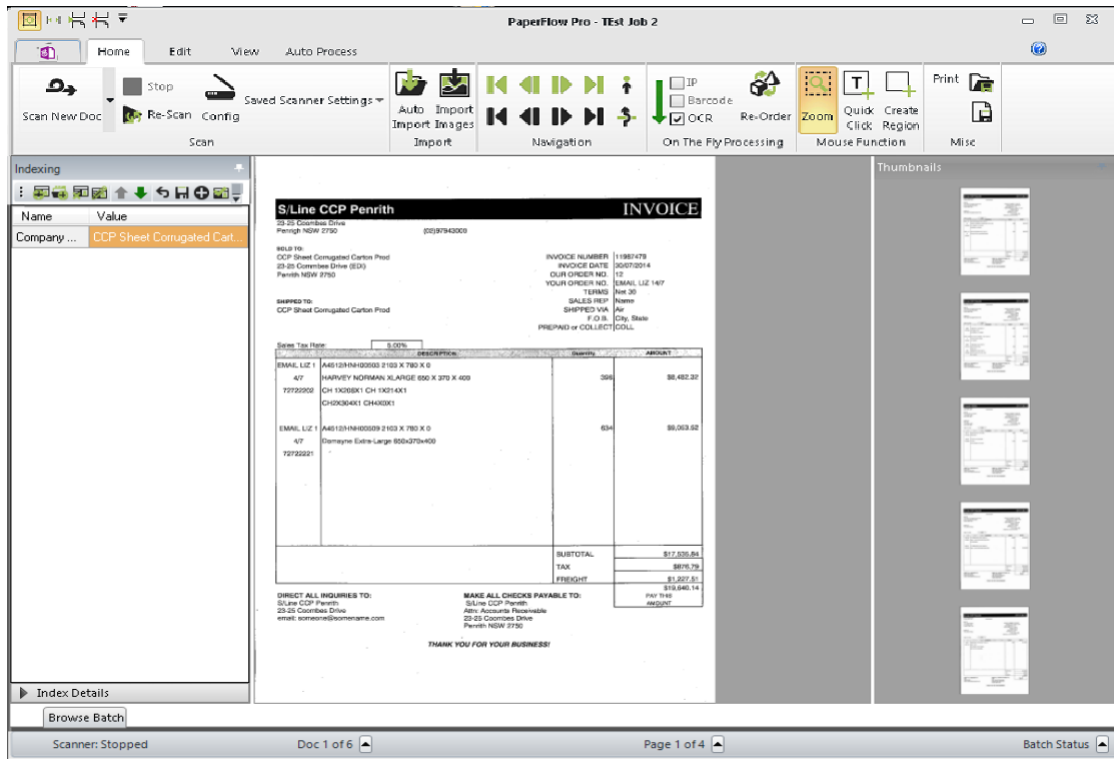
To configure the Data Entry Page Extraction Export Script

1. Launch PaperFlow (.NET) to display the Getting Started window.



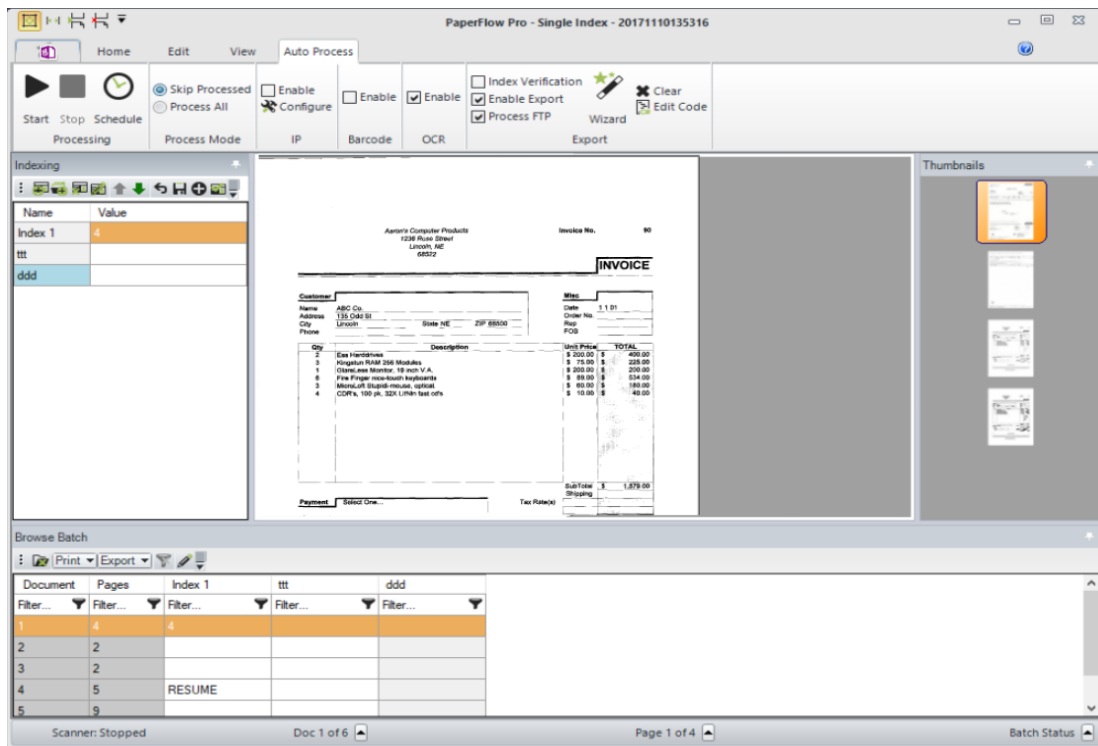
PaperFlow Getting Started tab

2. Click the application batch under **Recent Batches** to open the batch.



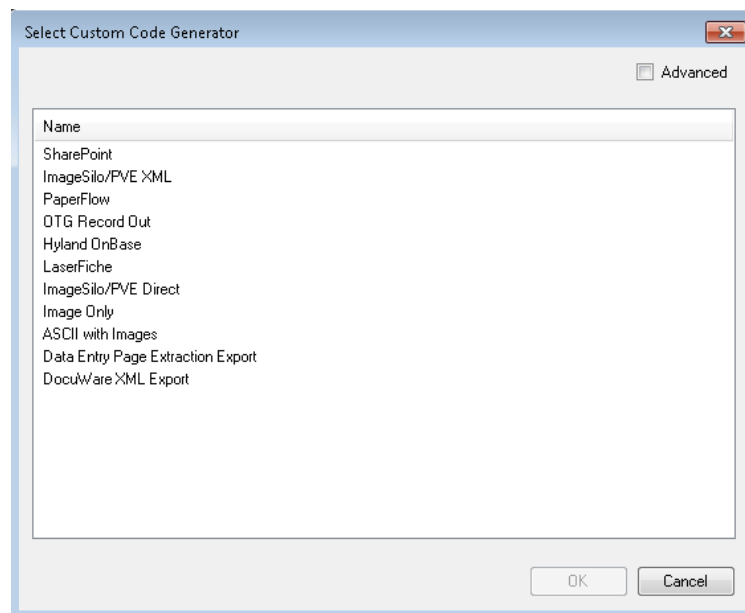
PaperFlow (.NET) - Home Tab

- Once the batch is displayed, click the Auto Process tab to configure the export.



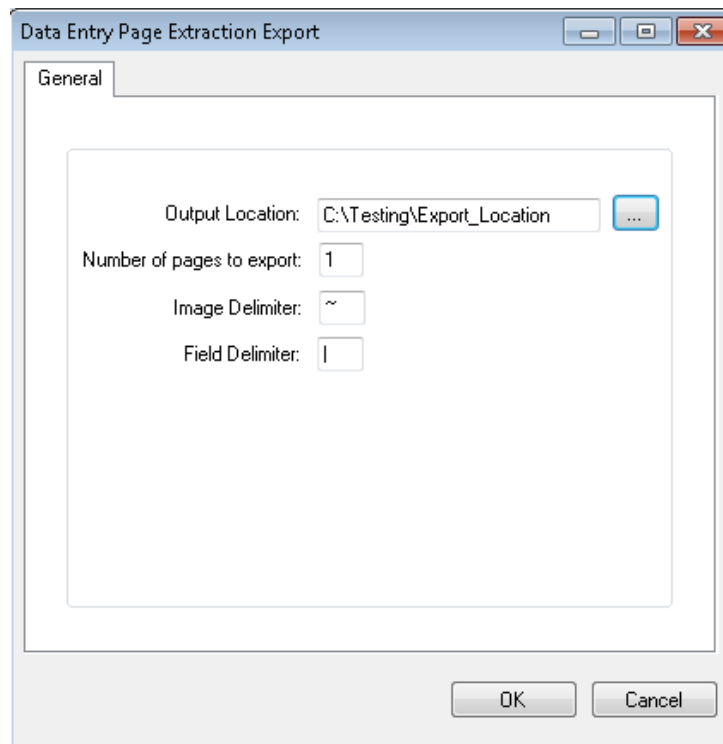
PaperFlow (.NET) - Auto Process Tab

- Click **Wizard** located in the Export section of the toolbar to launch the **Select Custom Code Generator** window.



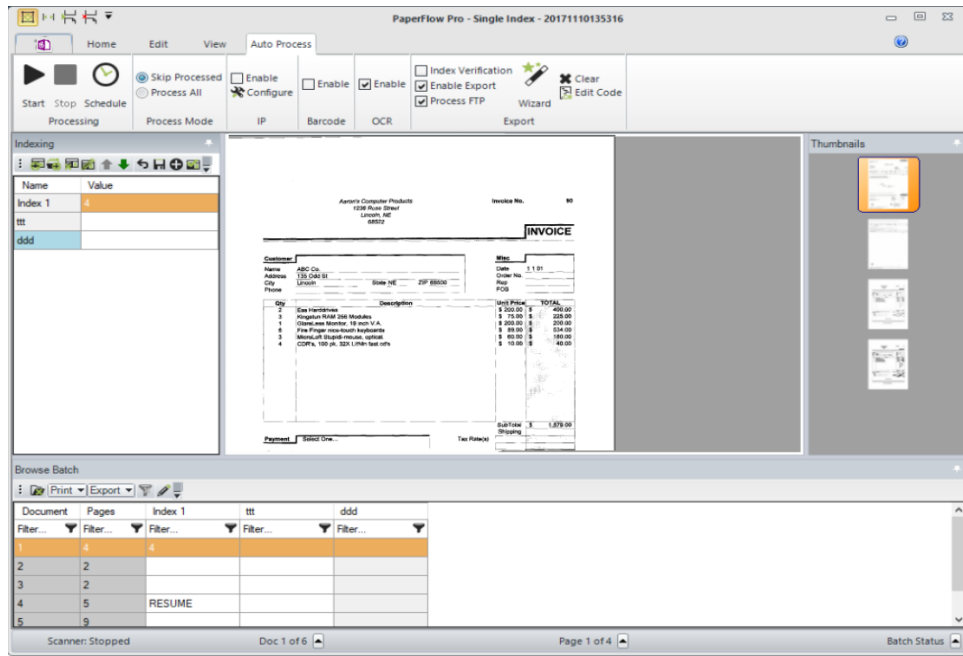
Select Custom Code Generator

- Select **Data Entry Page Extraction Export** script, and then click **OK** to configure the export script.



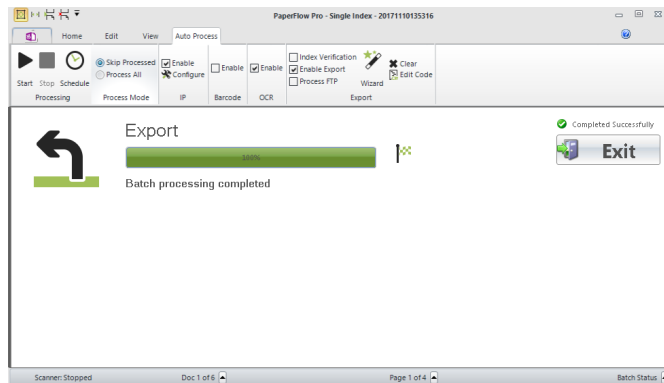
Data Entry Page Extraction Export

6. Click the **Output Location** button, browse to and select the location where the images and data will be copied to.
7. Enter the **Number of pages to export** (if more than just the first page is needed to get the data entry values.)
8. The **Image Delimiter** is used when exporting multiple pages of a document to denote how images are separated in the export file. By default, this is configured to use the ~ (tilde) character.
9. The **Field Delimiter** is used when exporting multiple index fields to denote how fields are separated in the export file. By default, this is configured to use the | (pipe) character.
10. Click **OK** to save your changes and return to the **Auto Process** tab.



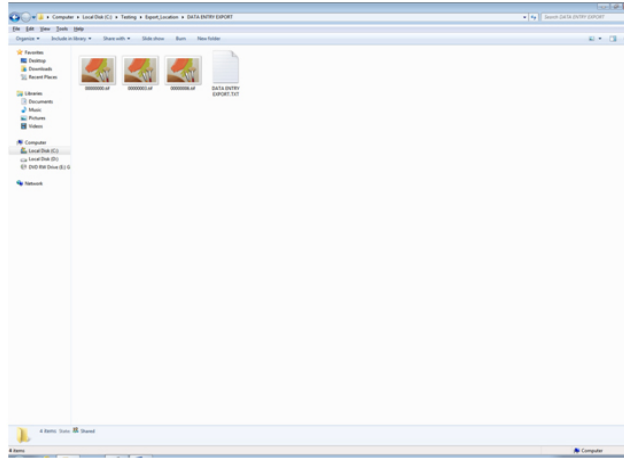
PaperFlow - Auto Process tab

- From the **Export** section of the toolbar, click the **Enable Export** option to make this export device active.
- If this is a new batch, there is no need to change the **Process Mode** option. If the batch had previously been exported, you may need to change the **Process Mode** option to **Process All** before running the export. Click **Start** in the **Processing** section to run the Export immediately or click **Schedule** in the **Processing** section to add the Export as an automation service scheduling task.



PaperFlow - Batch Processing

- Once processing starts, a progress bar is displayed showing the progress and completed status of the batch. Click the **Exit** button once the batch has completed processing to return to the **Auto Process** tab in PaperFlow (.NET).



Output Location - Windows

14. Browse to the output location. A folder will be displayed using the same name as the Batch created. The images that were exported are stored in this folder along with the associated text file (also named after the Batch) which contains all associated document ID's and image names for this batch.
15. Refer to the Data Entry File Import for PaperFlow (.NET) instructions for the necessary steps to import the completed data entry file.

DocuWare XML Export

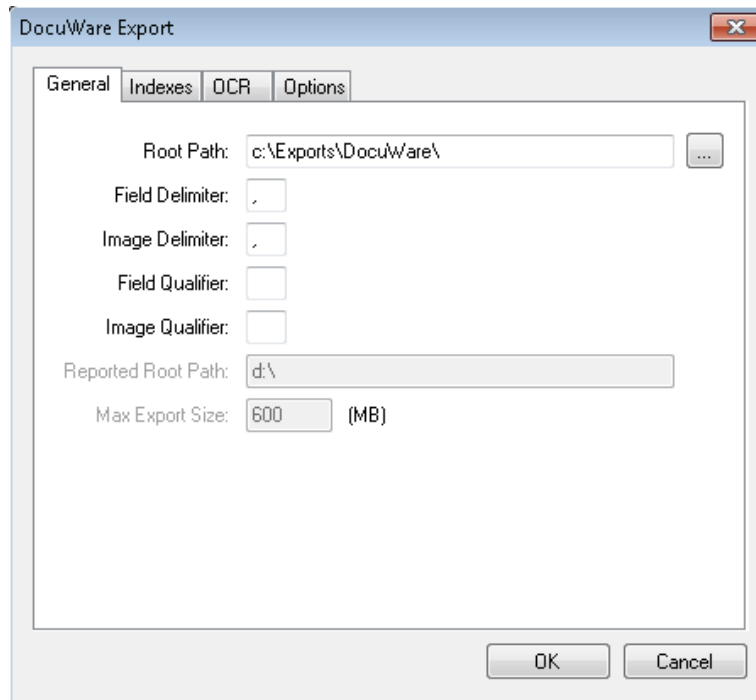
The DocuWare export converts documents into multi-page TIFs or PDFs, and a separate ASCII index file for each document. The index file and document are exported to the same folder location and have the same name. You can select the indexes to use for file naming. This export does not support appending.

To configure the DocuWare export

1. From the **Select Custom Code Generator** dialog box, double-click the **DocuWare** export, and the tabbed **DocuWare Exports** dialog box appears. Default values, paths, and other default settings are provided for your reference, and drop-down menus contain only the options specific to your selected generator. In addition, you can browse to the appropriate directories instead of manually entering file paths.
2. Assign the appropriate properties in the **General**, **Indexes**, **OCR**, and **Options** tabs. Descriptions for constant values appearing in the resulting export script are listed below.
3. When you have finished configuring the export, click **OK**.

DocuWare - General

When you configure the properties in the **General** tab, you can modify constant values that appear in the resulting export script.



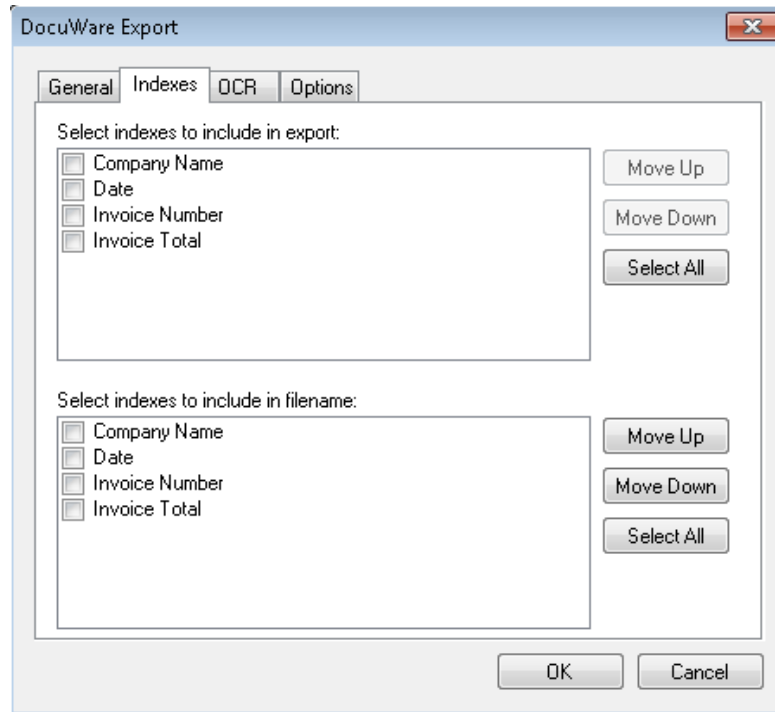
- **Root Path** - This property specifies the location where the exports will be created once you have started the automated process. Script constant: ROOT_PATH
- **Field Delimiter** - This customizable delimiter separates index values, page number/counts, and image sizes. Script constant: FIELD_DELIMITER
- **Image Delimiter** - This customizable delimiter separates images when exporting using multi-line indexing and converting to single-page images. Script constant: IMAGE_DELIMITER
- **Field Qualifier** - This property contains the characters that surround the field values. By default, quotation marks will appear. Script constant: FIELD_QUALIFIER
- **Image Qualifier** - This property contains the characters that surround the image values. By default, quotation marks will appear. Script constant: IMAGE_QUALIFIER
- **Reported Root Path** - The DocuWare export does not support this property.
- **Max Export Size** - The maximum export file size is fixed at 600 MB.

DocuWare - Indexes

1. In the Indexes tab, you can select the index values that will appear in the export by double-clicking within the appropriate check boxes. Alternatively, click the **Select All** button to include all indexes in the export. You can also click **Deselect All** to remove all selections. To change the order in which the indexes display, single-click an index name (to highlight it), and then click the **Move Up** or **Move Down** buttons.

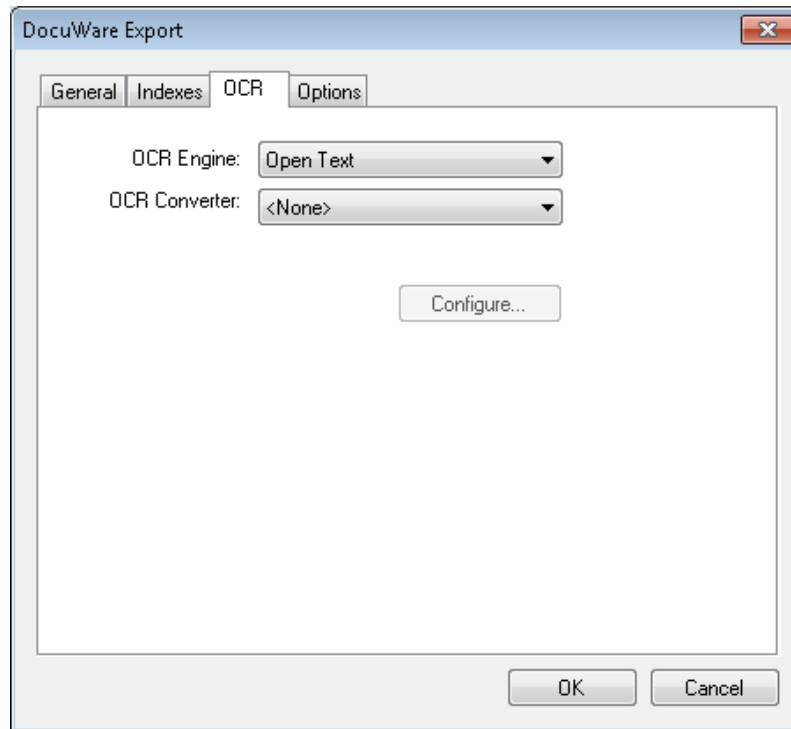


Single-click an index name to move it up or down the list. Double-click an index name to include it in the export.



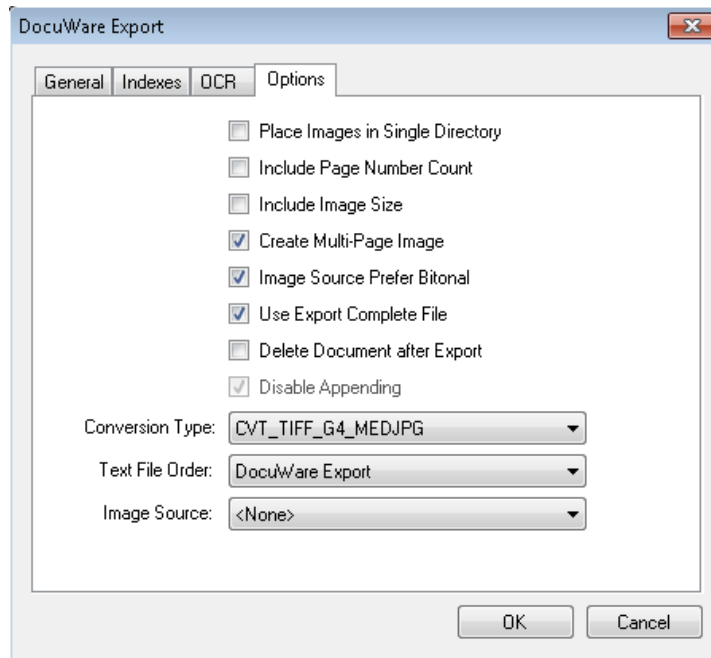
2. To edit the indexes in the resulting export script, you can modify the `INDICES_TO_INCLUDE` constant described below:
 - **Select indexes to include in export:** Your selections determine what index values are included in the export file. In the script, enter the name of the index value(s) between quotation marks, and separate each index value with a comma. To include all indices, leave the array blank. Script constant:
`INDICES_TO_INCLUDE`
 - **Select indexes to include in filename:** Your selection determines the index value(s) used in the export filename. If you leave the array blank, no index values will be included. Script constant:
`INDICES_FOR_FILENAME`
3. When you have finished configuring the export, click **OK**.

DocuWare - OCR



- **OCR Engine** - Open Text is the only engine available to generate OCR data.
- **OCR Converter:** Select the type of converter needed for this job:
 - **None** - No OCR outputs will be generated.
 - **PDF** - Outputs a PDF OCR data file with full-text OCR data.
- **Configure** - Click **Configure** to select the applicable OCR options. See the [Full-Text OCR Configuration](#) topic for more information.

DocuWare - Options



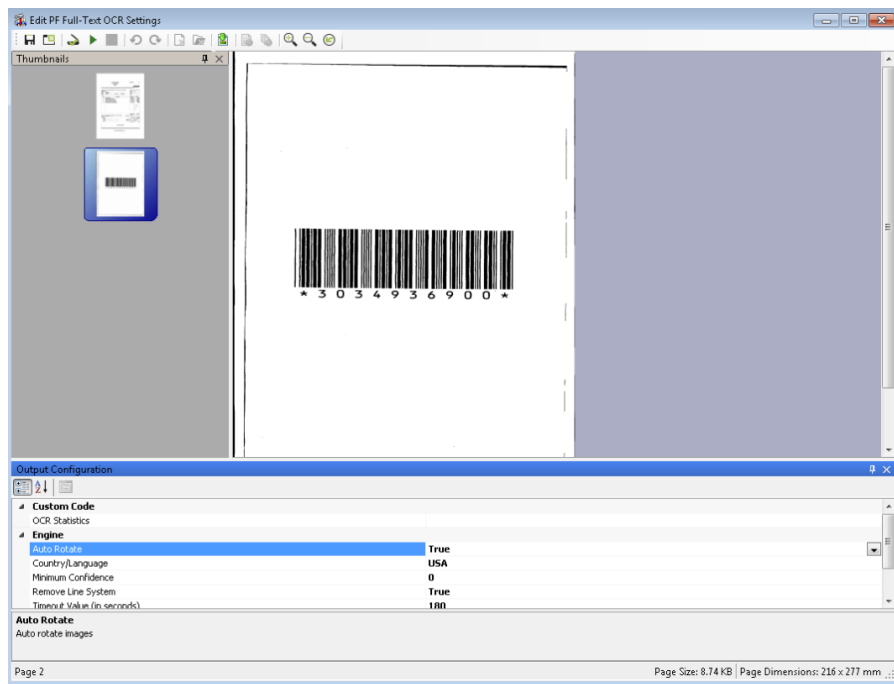
- **Place Images in Single Directory** - If set to **False**, the images will be placed in subdirectories at the ROOT_PATH (maximum of 1000 images per directory). If set to **True**, the images will be placed directly in the ROOT_PATH folder. Script constant: PLACE_IMAGES_IN_SINGLE_DIR
- **Include Page Number Count** - This determines whether the page number or page count of the document should be added as an additional field in the export. If set to **False**, when exporting in a multi-line format and creating single-page images, this value will match the page number of the document. If set to **True**, the value will match the total number of pages in the document. Script constant: INCLUDE_PAGE_NUMBER_COUNT
- **Include Image Size** - This property determines whether the image file size is added as an additional field in the export. If set to **True**, this value will match the image size referenced on that line of the export file when exporting using a multi-line format and creating single-page images. If set to **False**, this value will match the size of the first page in the document. Script constant: INCLUDE_IMAGE_SIZE
- **Create Multi-Page Image** - Used in conjunction with CONVERSION_TYPE, this option must be selected for the DocuWare export. Script constant: CREATE_MULTI_PAGE_IMAGE
- **Image Source Prefer Bitonal** - This property is applicable to dual-stream scanners and determines whether to export bitonal or color images. When set to **True**, which is the default setting, bitonal images will be exported. Script constant: IMG_SRC_PREFER_BITONAL_IMAGES
- **Use Export Complete File** - This property, set to **True** by default, generates an "export.complete" file once an export has reached its maximum file size, so data will no longer be appended to the export. When set to **False**, the "export.complete" file is not generated, so data may be appended to export folders that have not reached their maximum size. Script constant: USE_EXPORT_COMPLETE_FILE
- **Delete Document after Export** - This property specifies whether documents are deleted after they have been exported (set to **False** by default). Script constant: DELETE_DOCUMENT_AFTER_EXPORT
- **Disable Appending** - The DocuWare export does not support file appending.

- **Conversion Type** - This property determines the type of image file created during the export. You must export to a format that supports multi-page images: CVT_TIFF_G4_MEDJG, CVT_TIFF_G4_LZW, CVT_TIFF_NONE, CVT_PDF_G4_MEDJPG, or, CVT_PDF_G4_LZW. Additionally, you must set the CREATE_MULTI_PAGE_IMAGE constant to **True**. See the Custom Code Configuration topic on Enumerations for more information. Script constant: CONVERSION_TYPE
- **Text File Order** - This option is not editable for the DocuWare export.
- **Image Source** - This property determines whether original images (pre-image processing) or modified images (post-image processing) are used for the export. The **Pre-Image Processing** option uses the original image that has not been modified by image processing, and the **Post-Image Processing** option uses the image that has been modified by image processing. The default selection, **<None>**, uses the most recent image prior to exporting. Script constant: IMG_SRC

Full-Text OCR Configuration

In PaperFlow, Full-Text OCR processing is performed by the Open Text® engine that recognizes machine-printed text. Each output type contains unique settings that you can configure to support your full-text OCR requirements. During full-text processing, documents can be converted to several PDF versions, including those compatible with PDF-A, 1.4, 1.5, 1.6, and 1.7. The engine also converts documents to PaperVision Enterprise, PaperFlow, and text (.txt) output file types.

Note: Handwritten text will not be recognized. Additionally, new line characters will be removed during OCR processing.



Full-Text OCR Configuration

Maximum Supported Image Sizes

The maximum supported image dimensions that can be processed through the Open Text engine vary with resolution. The approximate maximum width is approximately 32,000 pixels, and the maximum height is approximately 24,000 pixels. For example, the maximum supported image dimensions at 300 dpi are approximately 106 inches x 80 inches. Images that are processed through the Open Text OCR engine must contain matching horizontal and vertical resolutions.



DISCLAIMER – PLEASE READ: These dimensions are provided only as estimates to identify size limits processing images in PaperFlow. Variations in technical environments may cause maximum image sizes to fluctuate across systems.

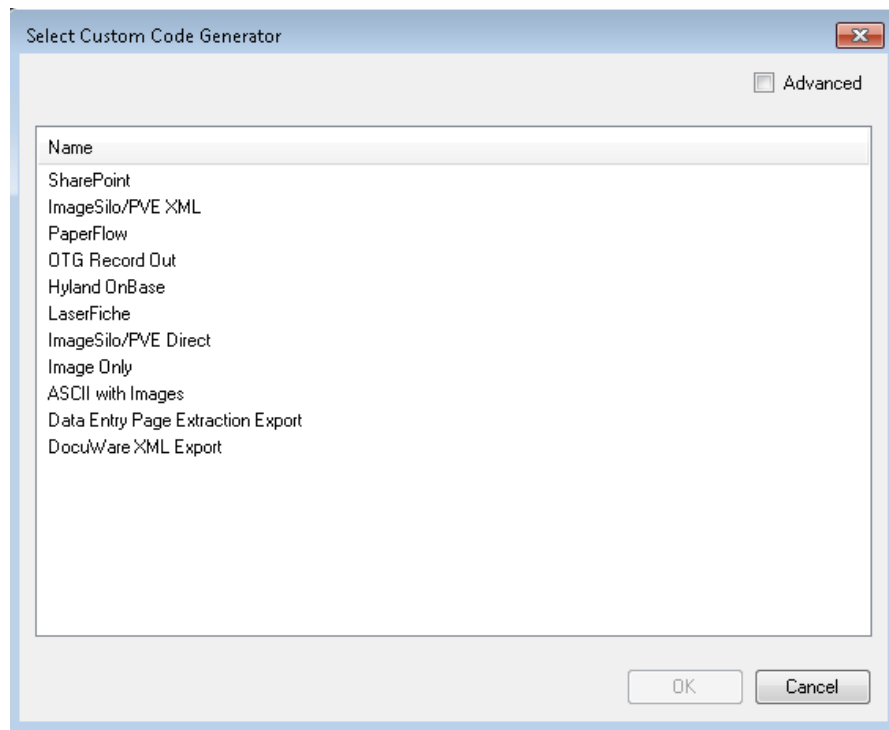
When you configure full-text OCR outputs and their associated properties, you can preview the full-text OCR results before you process the batch of documents. Thumbnail previews display the document's images and allow you to navigate through the document and perform basic operations including the cut/paste, copy/paste, and delete operations.

Configuring and Processing Full-Text OCR

Within the Exports page, you can configure an automated full-text OCR process to read pages of text and convert recognized results to various file formats.

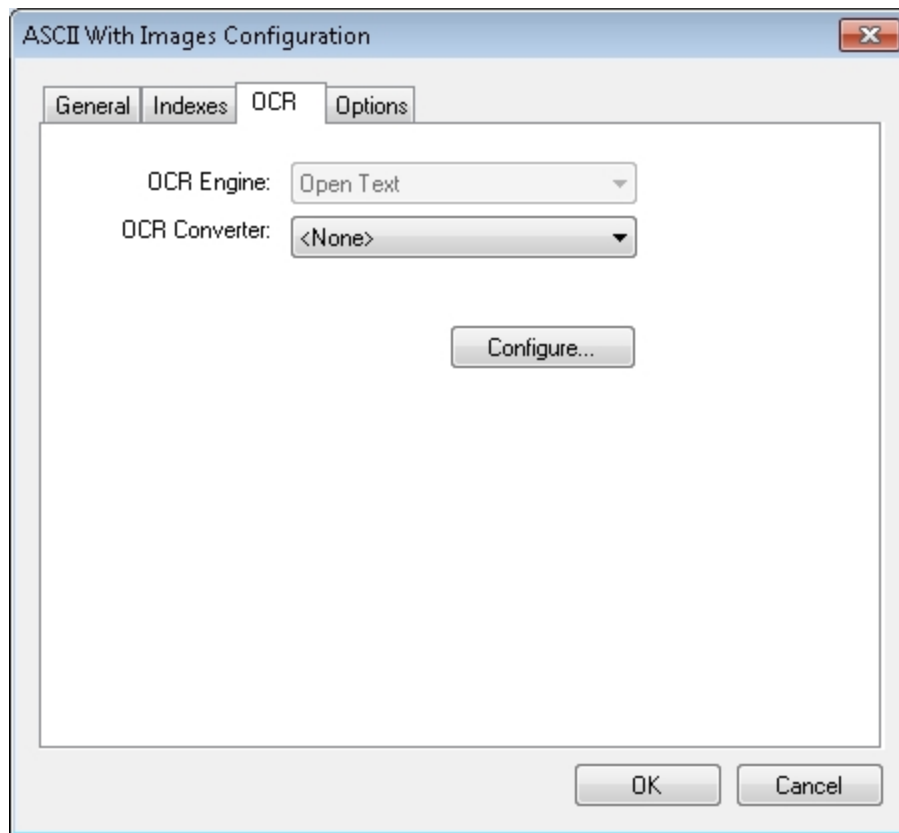
To configure full-text OCR

1. In the **Auto Process** page, click **Wizard** in the in the **Export** toolbar group. The **Select Custom Code Generator** window displays.



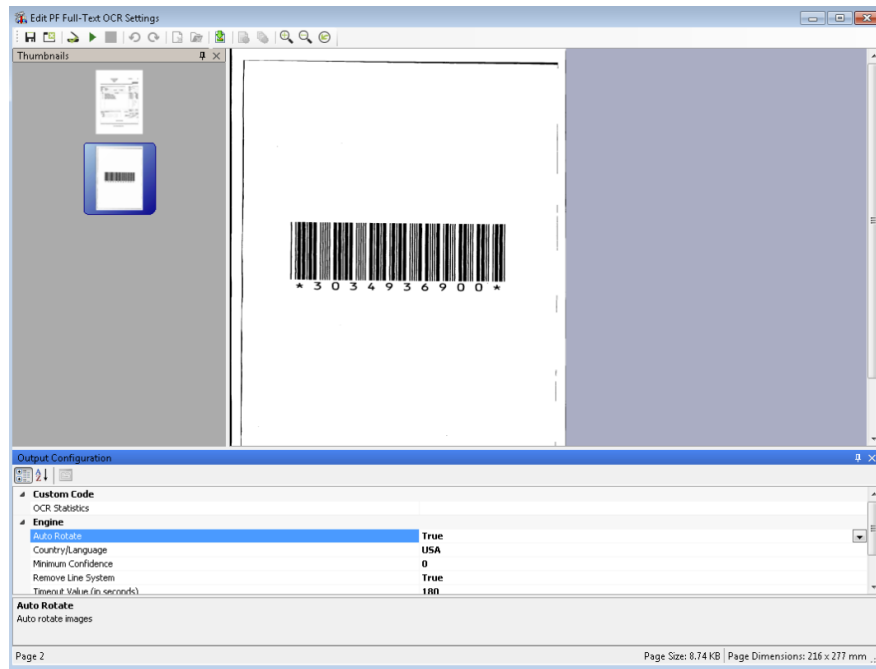
Select Custom Code Generator

2. Select an Export type and then click **OK**. The Configuration window displays.
3. Select the **OCR** tab.



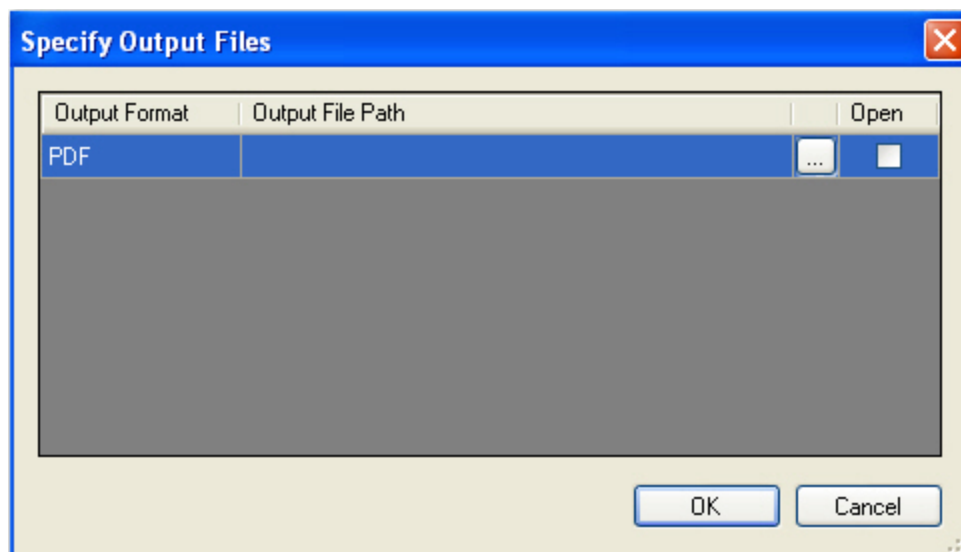
ASCII With Images Configuration

4. Select an OCR Converter from the drop-down list and then click the **Configure** button. The Edit Full-Text OCR Settings screen displays for the output type you selected.



Full-Text OCR Configuration

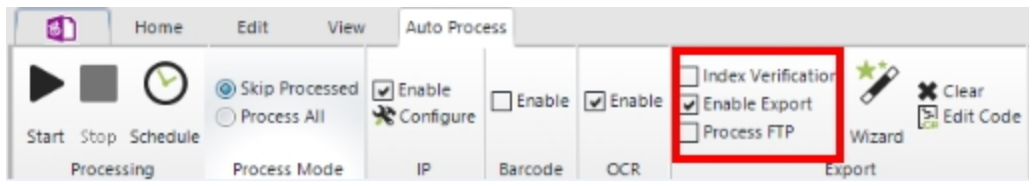
5. To test the full-text output for your selections, click **Test**. The **Specify Output Files** dialog box appears.



Specify Output Files

6. Enter the output file path where the full-text OCR results will reside.
7. Or, click the ellipsis button to browse to the output file location.
8. If you browsed to the output file location, enter the file name in the **Save As** dialog box, and then click **Save**.
9. If you want to view the results once they are tested, select the **Open** check box.

10. Click **OK**. The full-text OCR engine will process the results. If you opted to open the resulting output file, it will open in its respective application or editor.
11. If the resulting file is not acceptable, adjust the OCR page properties and/or the converter's properties, and run the test again.
12. Click **Save** to save your full-text OCR converter settings.
13. In the **Export** task group select the **Enable** check box.



Automated Processing Tasks (Full Text)

14. To process the batch (with full-text OCR output now enabled) or start the scheduling service, click **Start**. A progress screen appears, and displays the progress of full-text OCR output file. If any errors occur during processing, they will appear in this screen.
15. Click the **Exit** button to close the progress screen.

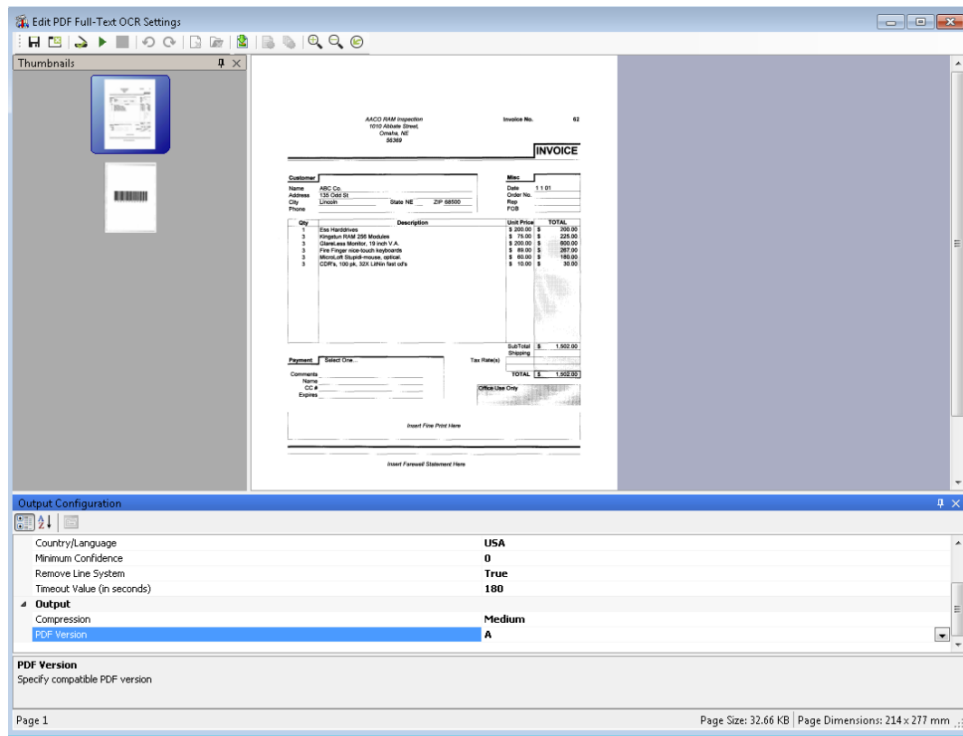
Testing Full-Text OCR

Testing, Full-Text OCR (Selected Filter, Current Page Only)

Prior to starting automated processing, you can verify that the current page's text can be read successfully. You can opt to open the output file for the selected output type.

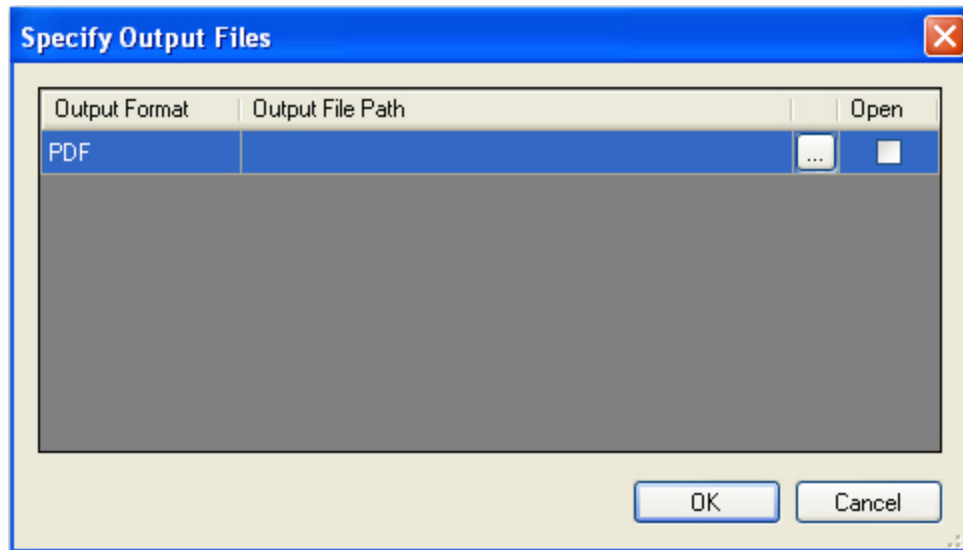
To test full-text OCR for the current page

1. Navigate to the appropriate page.
2. In the **Full-Text OCR Config** page, select the output from the **Output Configuration** list.



Full-Text OCR Output

3. Click **Test**. The **Specify Output Files** dialog box appears.



Specify Output Files

4. Choose from the following:

- Enter the output file path where the full-text OCR results will reside. Proceed to step 5.
- Click the ellipsis button to browse to the location. Proceed to the next step

5. If you browsed to the file location, enter the file name in the **Save As** dialog box, and then click **Save**.

Note: To view the results, select the **Open** check box.

Zooming Operations

If you need to adjust the view of the page, you can use the zoom operations in the toolbar.

- To zoom in on an area of the image, click **Zoom In**.
- To zoom out of the current view of the image, click **Zoom Out**.
- To reset the image to its original view, click **Zoom Reset**.

Supported Output File Types

PaperFlow supports the following full-text OCR output file types:

- **PaperFlow:** The PaperFlow output is a text-based full-text output file that you can subsequently import into PaperVision Enterprise.
- **PaperVision Enterprise:** The PaperVision Enterprise output is a text-based full-text output file that you can subsequently import into PaperVision Enterprise. PVE export gives you .pvfulltext files and images.
- **PDF:** The PDF output produces a searchable PDF (.pdf) file compatible with your specified PDF version.
- **Text:** The Text output produces a text (.txt) file.

Full-Text OCR Properties

Full-Text OCR Statistics

The Full Text OCR statistics custom code entry point exposes the OCR API functionality. The Full-Text OCR Statistics sample, OCRFullTextPageStatistics.txt file exposes the confidence levels of each character in the document. This API exposes other properties of the OCR engine such as, alternate characters, location, and size.

Auto Rotate

By default, this property is set to **True**, and the Open Text Full-Text OCR engine may automatically rotate some images in order to recognize text. If you do not want the Open Text Full-Text OCR engine to automatically rotate images prior to text recognition, set this property to **False**.

Note: Since the engine may automatically rotate some images in order to recognize text, the resulting output images may also be rotated.

Brightness Sample Size

This value (indicating both width and height) specifies the rectangle size used to calculate the brightness threshold. You can specify a value between 1 and 32, and the default value is 15.

Note: Smaller brightness sample sizes may cause the OCR engine to recognize extraneous noise on the image.

Brightness Threshold

You can assign a brightness threshold value (between 0 and 255) for the image. The default value is 75.

Country/Language

When you select from the **Country/Language** property, your selection may reflect not only a country or language, but country groups (e.g., Western Europe), language groups (e.g., Latin), and character sets (e.g., OCR). Each country corresponds to one or more languages, and countries are automatically expanded into language sets (e.g., German corresponds to the German language; Switzerland corresponds to the German, French, Italian, and Rhaeto-Romantic languages).

Specific languages are also available for selection under the Country/Language property (e.g., English, German, Dutch, Italian, etc.). It is recommended to narrow your selection as much as possible since OCR recognition may become slower with a greater number of selected countries or languages. It is also recommended to select a country rather than a language or country group (e.g., Western Europe, South America, Scandinavia) since the recognition of certain types of addresses and money transfer forms may improve.

Note: You cannot select the OCR character set individually; it must be selected with another language, language group, country, or country group.

Language Groups

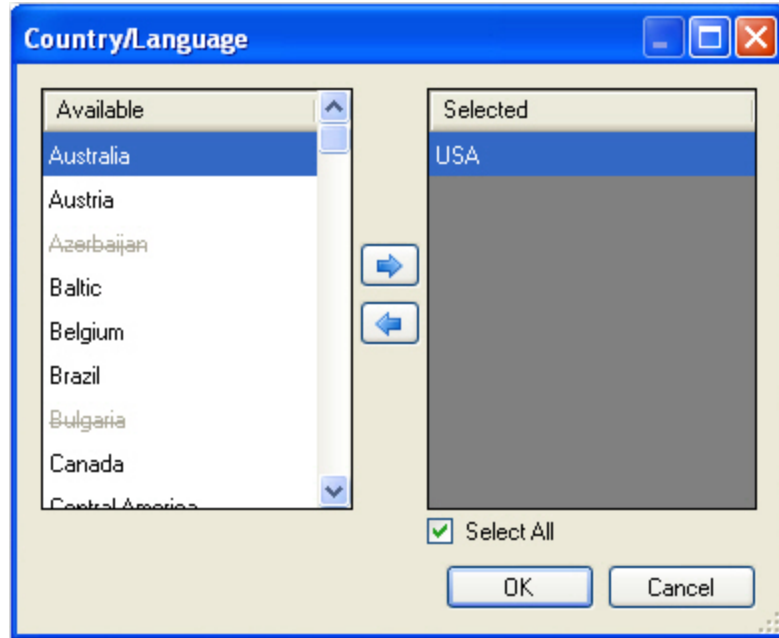
If you select a language group, it is recommended to select only one, since they encompass multiple languages, countries, and code pages:

1. Cyrillic (Code page 1251)
2. Greek (Code page 1253)
3. Latin (Code page 1250, 1252, 1254, and 1257; i.e., Central Europe, Western Europe, Turkey, and Baltic)
4. Azerbaijanian

Note: For language groups, recognition results are always represented by Unicode characters. The English character set (A-Z, a-z) is implicitly available with all country-language selections, even Greek or Cyrillic.

To select a country or language for full-text OCR output

1. After selecting an output type, click the ellipsis button to the right of the **Country/Language** property. The **Country/Language** dialog box appears.



Country/Language

Note: If a country or language appears crossed out, it does not belong to the same code page as the selected country or language. Therefore, countries or languages containing strikethroughs cannot be added to the **Selected** list.

2. Highlight one or more countries/languages from the **Available** list, and then click the right arrow.
3. To remove one or more selections from the **Selected** list, highlight the countries/languages, and then click the left arrow.
4. When finished with your selections, click **OK**.

Supported Countries, Languages, Country Groups, Language Groups, and Character Sets

If you narrow the search for specific languages or countries, the OCR engine will process more rapidly during OCR recognition. The following table displays the supported countries and languages available in PaperFlow.

Supported Countries and Languages		
Australia	Scandinavia	Hungarian
Austria	Slovakia	Icelandic

Supported Countries and Languages		
Azerbaijan	Slovenia	Indonesian
Baltic	South Africa	Irish
Belgium	South America	Italian
Brazil	South America Spanish	Kirundi
Bulgaria	Spain	Latin
Canada	Sweden	Latvian
Central America	Switzerland	Lithuanian
Central Europe	Turkey	Luxembourgish
Croatia	Western Europe	Malay
Cyrillic	OCR	Norwegian
Czech	Afrikaans	Polish
Denmark	Albanian	Portuguese
Estonia	Azerbaijani Latin	Quechua
Finland	Basque	Rhaeto Romanic
France	Bosnian Latin	Romanian
Germany	Bulgarian	Russian
Great Britain	Catalan	Rwanda
Greece	Croatian	Serbian Latin
Hungary	Czech Language	Shona
Ireland	Danish	Slovak
Italy	Dutch	Slovenian
Liechtenstein	English	Somali
Lithuania	Estonian	Sorbian

Supported Countries and Languages		
Luxembourg	Faroese	Spanish
Netherlands	Finnish	Swahili
New Zealand	French	Swedish
Norway	Frisian	Turkish
Poland	German	Wolof
Portugal	Greek	Xhosa
Romania	Guarani	Zulu
Russia	Hani	USA

Minimum Confidence

The confidence level reflects the reliability of the OCR recognition results. Values range from zero (the default setting), the lowest confidence level, to 255, the highest confidence level indicating the most reliable recognition results. Characters with lower confidence levels than your specified value will display as the rejection symbol, which is the tilde (~) character by default.

Remove Line System

Toggles the line system removal on and off.

The Remove Line System feature will prevent the system from recording lines in the document to produce a cleaner copy. When a document has information within a large grid, the output can be unclear. Removing the lines creates a cleaner copy. The Remove Line System feature removes the lines from the image before OCR scanning occurs. By doing this a cleaner copy of the image and text is produced.

Timeout Value (sec)

This property allows you to define the maximum amount of time that the Open Text OCR engine processes a single image before it fails. By default, this property is set to 180 seconds (3 minutes). You can assign a timeout between one second and 3,600 seconds (1 hour).

Note: Raising the timeout setting may increase the amount of time to process all images.

Compression (PDF output only)

You can set the level of compression applied to PDF outputs. The higher the compression, the smaller the output file size. The default level of compression is medium. You can select from the following compression levels:

- None (no compression will be applied)
- Low (low level of compression is applied)
- Medium (medium level of compression is applied)
- High (highest level of compression is applied)

PDF Version (PDF output only)

You can select the compatible PDF version for PDF output files. The following versions are supported by the full-text OCR engine:

- PDF 1.4: Acrobat 5.0
- PDF 1.5: Acrobat 6.0
- PDF 1.6: Acrobat 7.0
- PDF 1.7: Acrobat 8 and 9
- PDF/A: Format for long-term archiving of electronic documents - with Level B compliance in Part 1 (1b)

Rejection Symbol

This property represents rejected characters in output documents. A rejected character is not recognized by the active OCR recognition engine configuration. The default value is the Tilde character (~). Only a single character can be entered in this field.

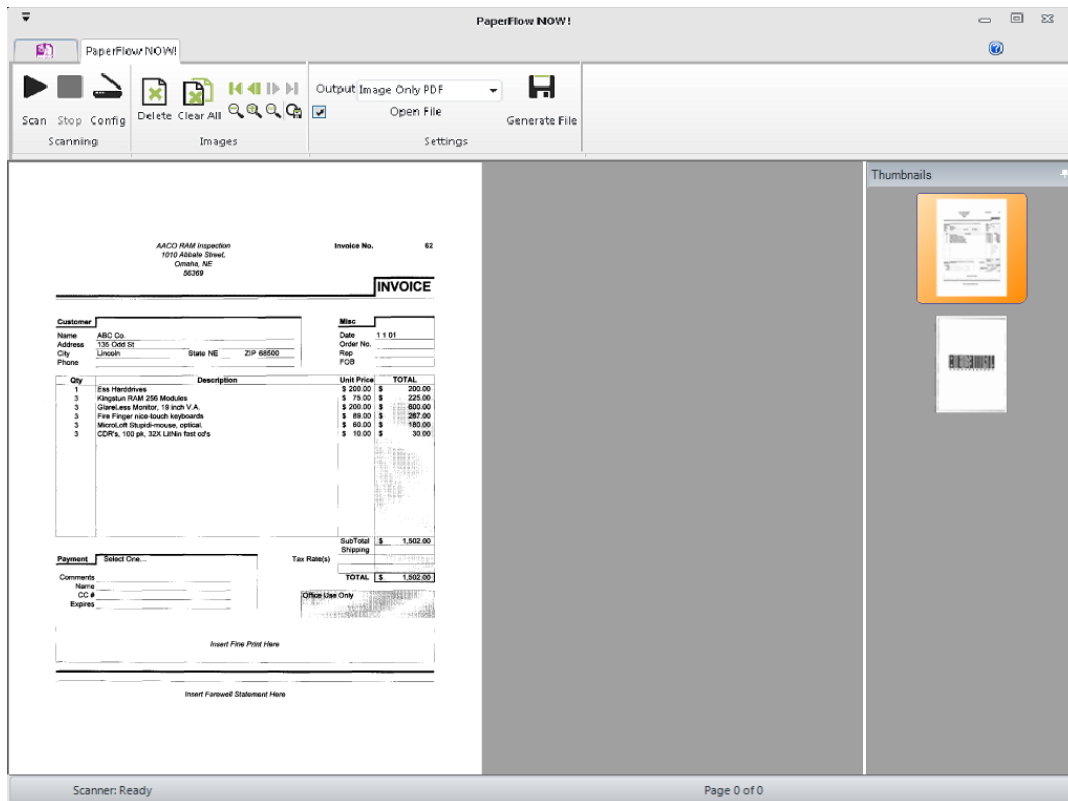


To prevent unrecognized characters from appearing in output documents, leave this field blank.

Chapter 8 - PaperFlow NOW!





The PaperFlow NOW! application enables you to quickly scan and output images to full-text searchable PDF, image only PDF, and single- or multi-page TIFF files. You can scan and output images in a few simple steps, without having to create new jobs and batches to process the images. With PaperFlow NOW!, you simply configure your scanner, scan pages, and select your output format and output directory.



PaperFlow NOW!

Launching the Application

To launch the PaperFlow NOW! application, double-click the **PaperFlow NOW!**  icon located on your desktop. The PaperFlow NOW! page will appear, where you can scan and output your documents.

Note: PaperFlow and the PaperFlow NOW! graphical user interface application (launched via the **PaperFlow NOW!**  icon) cannot be run simultaneously on the same machine.

Configuring the Scanner

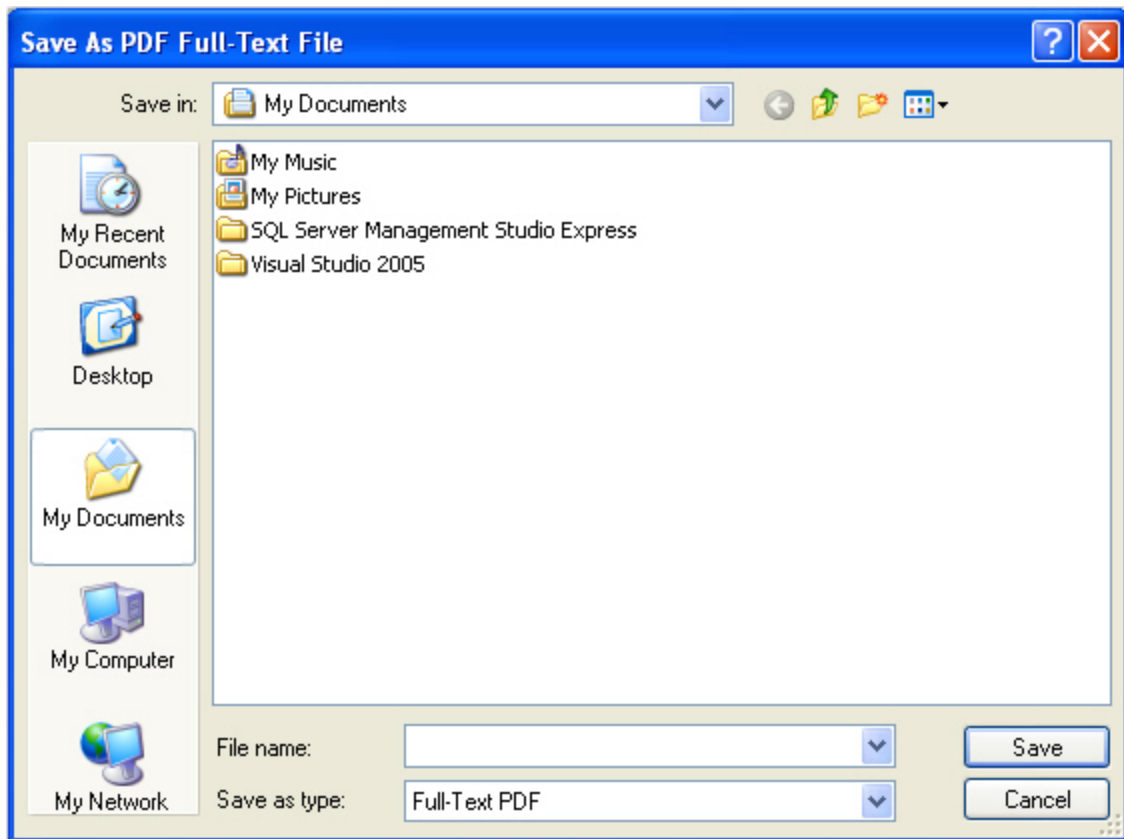
The Configure Scanner operation allows you to assign scanner settings. To add a scanner profile, click **Configure Scanner**. See the [Scanner Settings](#) topic for details on each setting.

Scanning and Generating Output Files

After you have configured your scanner, you are ready to scan images and output them to PDF or TIFF files.

To scan and generate output files

1. To scan the images, click **Scan**.
2. Once the images have been scanned, select from the following Output options:
 - Full-Text PDF
 - Image Only PDF
 - TIFF
3. Optionally, select **Open File** if you want the resulting file to open automatically.
4. To generate the output file, click **Generate File**. The Windows **Save As** dialog appears.








Save As Full-Text PDF File

5. Enter the file name, and then click **Save**. If you selected the **Open File** option, the resulting file will open automatically.
6. Images are not automatically removed from the main viewing window, allowing you to view the resulting file and make changes (delete images, re-scan images, etc.) if necessary. To remove the images from the main viewing window, click **Clear All**.

Stopping the Scanning Process

To stop scanning, click **Stop**. If you stop the scanning process and do not want to save any scanned images, click **Clear All** before proceeding.

Page Navigation Operations

Page Navigation Operations	
First Page 	Displays the first page of the current document Hot Key: Home
Previous Page 	Displays the previous page of the current document Hot Key: Page Up
Next Page 	Displays the next page of the current document Hot Key: Page Down
Last Page 	Displays the last page of the current document Hot Key: End
Jump To Page 	Retrieves your specified page number Hot Key: J

Zooming and Rotating Operations

- To zoom in on the image, click **Zoom In**.
- To zoom out of the image, click **Zoom Out**.
- To reset the image to its original view, click **Zoom Reset**.
- To rotate and save one or more images 90 degrees clockwise, select the image(s) in the Thumbnails window, and then click **Rotate and Save**.

Deleting Images

You can delete one or more images in the PaperFlow NOW! application.

To delete an image

1. Select one or more images in the **Thumbnails** window.
2. Click **Delete Image**.

3. Click **Yes** to confirm the deletion.

To clear all images

1. Click **Clear All**.
2. Click **Yes** to confirm the deletion.

Command Line Parameters

The PaperFlow NOW! application can be run from the command line to automatically execute scanning and file conversion operations, without requiring user interaction in a graphical user interface. Other applications, hardware, and network devices can use the parameters (also known as switches) provided in this appendix to communicate with PaperFlow NOW!. For example, you could assign command line switches to communicate directly with a scanner, so that users only need to press a button on the scanner to initiate PaperFlow NOW! operations. In this scenario, the scanner must be configured (via the Configure Scanner operation in PaperFlow NOW! or PaperFlow NOW!) before you assign command line switches.

Once operations are completed, output is displayed in the form of text lines in the command line interface. You can enter combinations of command line switches to simultaneously execute multiple operations. Command line switches are case-insensitive.

Note: If PaperFlow NOW! is in Demo mode, each image will be watermarked. If a purchased PaperFlow NOW! license has been activated, images will not be watermarked.

The following command line switches can be used to run PaperFlow NOW!:

Command Line Switch	Description
<code>PaperFlow.exe /pvcnow</code>	<ul style="list-style-type: none"> * Launches PaperFlow NOW! application (graphical user interface) * No optional parameters are available for this switch.
<code>PaperFlow.exe /pvcauto</code>	Launches PaperFlow NOW! application in auto mode (no graphical user interface)

Optionally, the following command line switches can be used in conjunction with the `<pvcauto>` switch:

Command Line Switch	Description
<code>/file:"<file path and name.extension>"</code>	<p>This switch specifies a valid Windows path (including file name) of the resulting output file. Local and UNC paths are valid. If this switch is not assigned, the user will be prompted with a "Save As" dialog when scanning completes.</p> <p>If any spaces exist in the file path, the path must begin and end with double quotes (") to indicate that spaces exist. For example, a valid path and file name are:</p> <pre> /file:"c:\PaperFlow NOW Outputs\Output.pdf" /file:c:\Outputs\Output.pdf </pre>

Command Line Switch	Description
<code>/output</code>	<p>This switch specifies the resulting output file type.</p> <p>Available outputs include:</p> <ol style="list-style-type: none"> 1. <code>fulltextpdf</code> (full-text searchable PDF) 2. <code>imageonlypdf</code> (image only PDF) 3. <code>tiff</code> (single- or multi-page tiff) <p>If this switch is not specified, the default full-text searchable PDF file will be created.</p> <p>Note: If you specify the <code>/file:"<file path and name.extension>"</code> switch, the extension must match the output type. Otherwise, documents will not be scanned. In the following example, a TIFF file will be created:</p> <pre>PaperFlow.exe /pvcauto /file:"c:\PaperFlow\Test.tiff" /output:tiff</pre>
<code>/open</code>	<p>When this switch is assigned, the resulting output file will open automatically after it is created. If this switch is not assigned, the file will not open automatically.</p>
<code>/successprompt</code>	<p>This switch determines whether the user receives a success message once the file is created. If this switch is present, a success message will appear on the user's screen once the file is created and saved. If the switch is not entered, no message will appear.</p>

Note: If multiple switches are assigned, you must insert a single space between each switch.

For example, the switch below automatically creates a full-text searchable PDF named Test and saves the file to a folder called PaperFlow on the c: drive. In addition, the resulting file will open automatically after it has been created and the success prompt has displayed for the user.


```
PaperFlow.exe /pvcauto /file:"c:\PaperFlow\Test.pdf" /open /successprompt
```

To create a TIFF file instead, change the following switches


```
PaperFlow.exe /pvcauto /file:"c:\PaperFlow\Test.tiff" /output:tiff /open
/successprompt
```

Exit Codes

The following exit codes are included with PaperFlow NOW!. If an exit code appears in the command line interface, you can refer to the following table for each code's description:

Exit Codes	Description
0	The operation has been completed successfully.
1	An instance of PaperFlow NOW! is already running on the workstation.
4	<p>The scanner has not been configured.</p> <p>Note:</p> <p>You must first configure the scanner via the Config  icon in the Scanning toolbar group (in PaperFlow NOW!'s main page or in PaperFlow's Home page) prior to running PaperFlow NOW! with the command line interface.</p>
8	DSI ImageSpewer is an invalid scanner.
16	A general application exception error has occurred. For details, refer to the Windows Event Log.
32	An invalid command parameter has been entered.
64	An invalid output parameter has been entered.
128	An invalid file path has been entered.
256	An invalid "/open" switch has been entered.
512	An invalid "/successprompt" switch has been entered.
1024	The scanner has a paper jam.
2048	The scanner has an empty feeder.
4096	A general scanner error has occurred.
8192	A scanner exception error has occurred. For details, refer to the Windows Event Log.

About

Click the **PaperFlow NOW!**  button, and then select **About** to display the product name, current released version of the application, license information, and copyright information.

Chapter 9 - Additional Help Resources



At Digitech Systems, we provide multiple resources to help find answers to your questions.

Technical Support

Contact our legendary customer support staff Monday - Friday between the hours of 8:00 am and 6:00 pm Central time for answers to your questions about our products.

Direct: (402) 484-7777

Email: support@digitechsystems.com

Help on the Web

MyDSI is an interactive tool for all Digitech Systems customers. Log in to MyDSI to download product updates, license purchased software, and view support contract renewals.

User Forums

Join the Digitech Systems user forums to exchange answers and ideas with other users in our moderated community.

Knowledge Base

Search our extensive database for articles on all Digitech Systems products. This feature is accessible to everyone.

Appendix A: Data Group Import Script for PaperFlow (.NET)




The Data Group Import Script for PaperFlow (.NET) can be used to import existing PaperFlow, and XML data groups into PaperFlow (.NET). To successfully run this tool, you must first create a job and batch in PaperFlow (.NET). This job must include the same index fields as the data group.

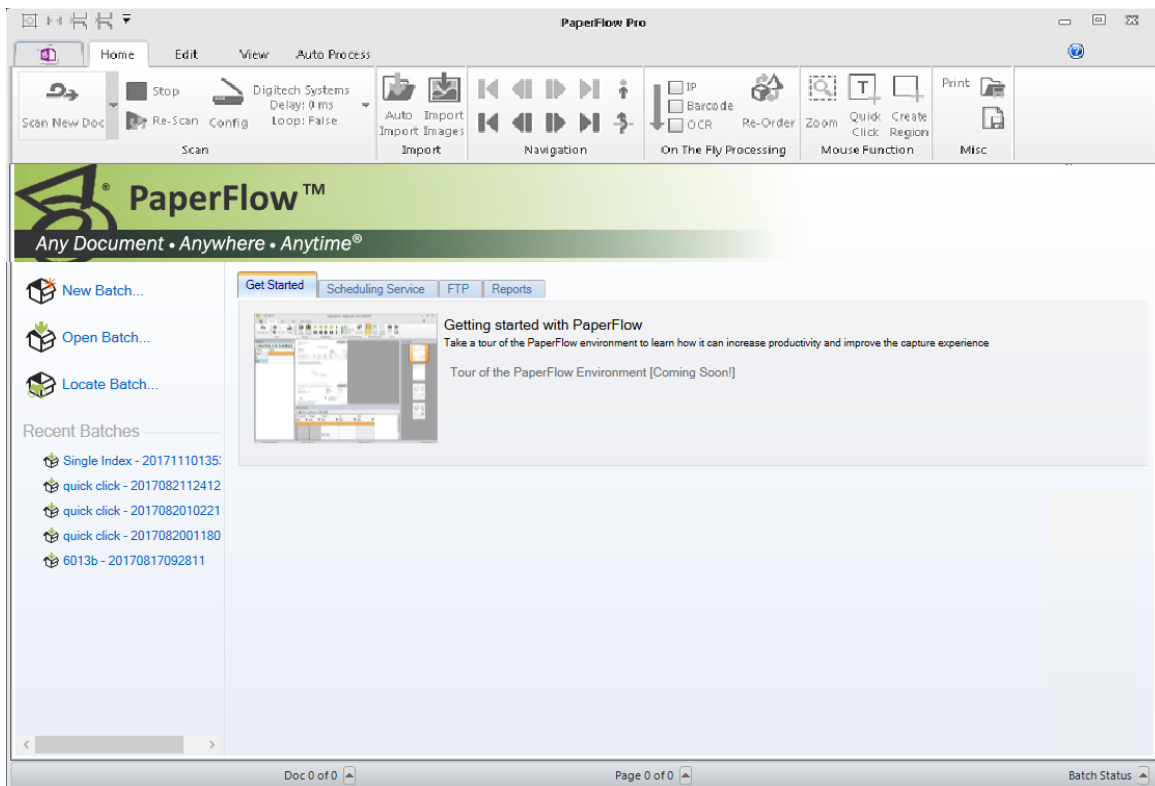
A job is any user-defined process which consists of manual and automated tasks (e.g. scanning, indexing) that allow batches to be processed. A batch is a collection of documents and their associated index name-value pairs.

NOTE: The Data Group Import Script cannot be used with a PaperFlow click license.

Create a PaperFlow (.NET) job

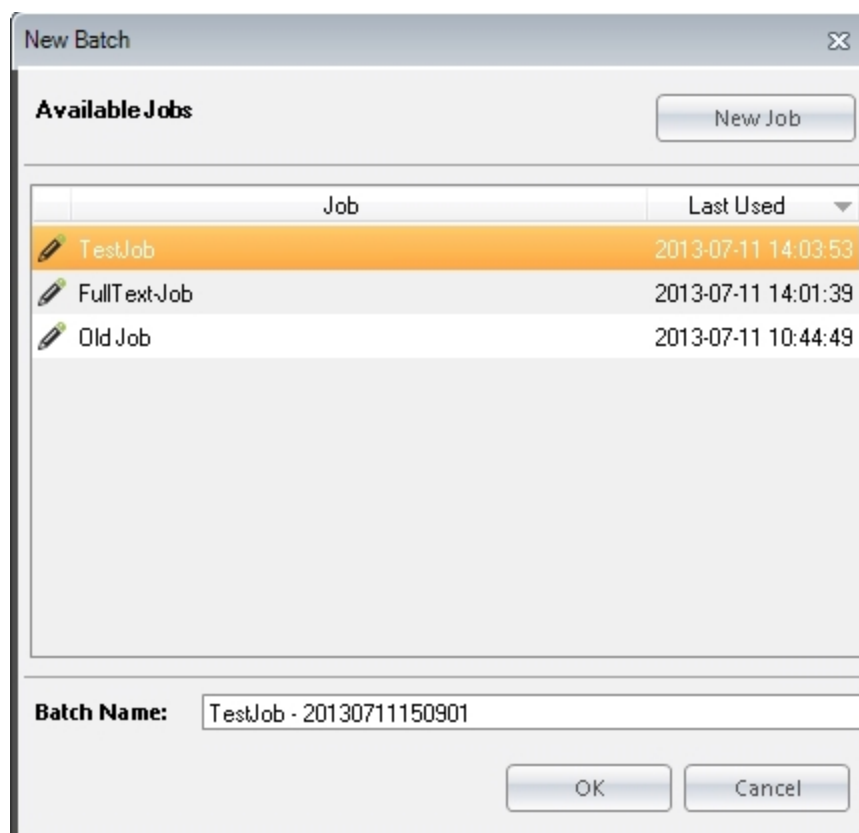
To create the PaperFlow (.NET) job

1. Launch **PaperFlow (.NET)**  to display the **Get Started** window.



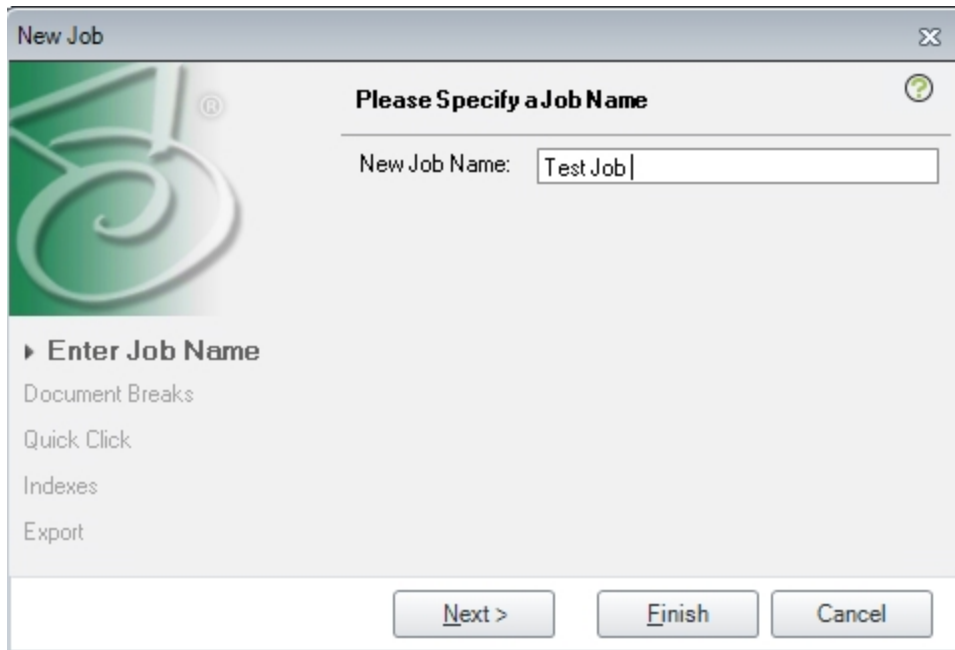
PaperFlow Getting Started tab

2. Click **New Batch** to launch the **New Batch-Available Jobs** dialog.



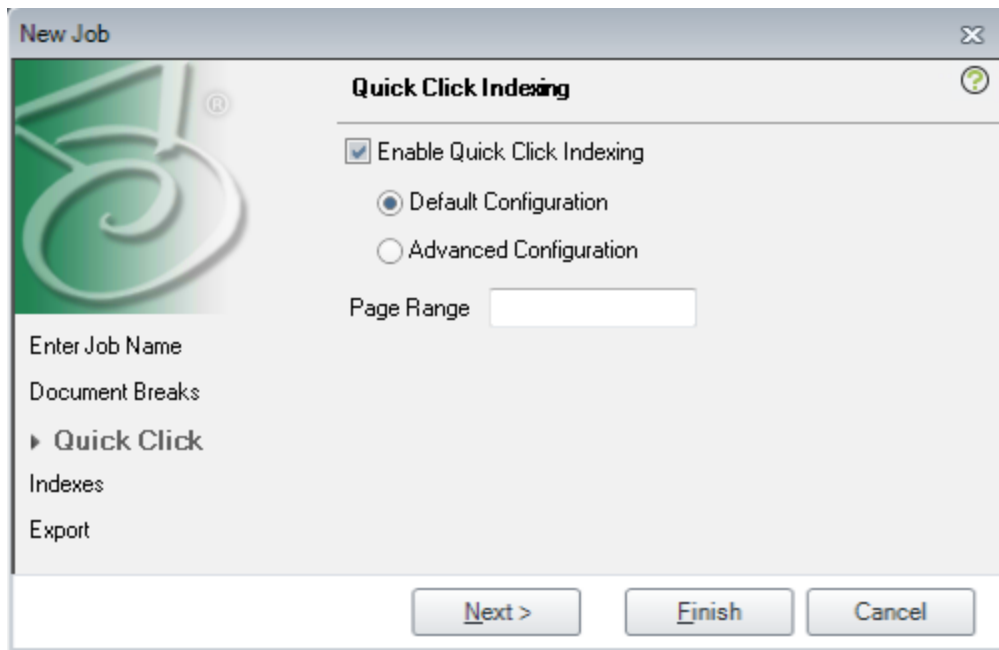
New Batch - Available Jobs

- From the **New Batch - Available Job** dialog, click the **New Job** button. The **New Job** wizard displays. The wizard will assist you in creating a job and batch.



New Job

4. Enter a name for the job in the **New Job Name** field and then click **Next** to continue configuring the job.



New Job - Quick Click

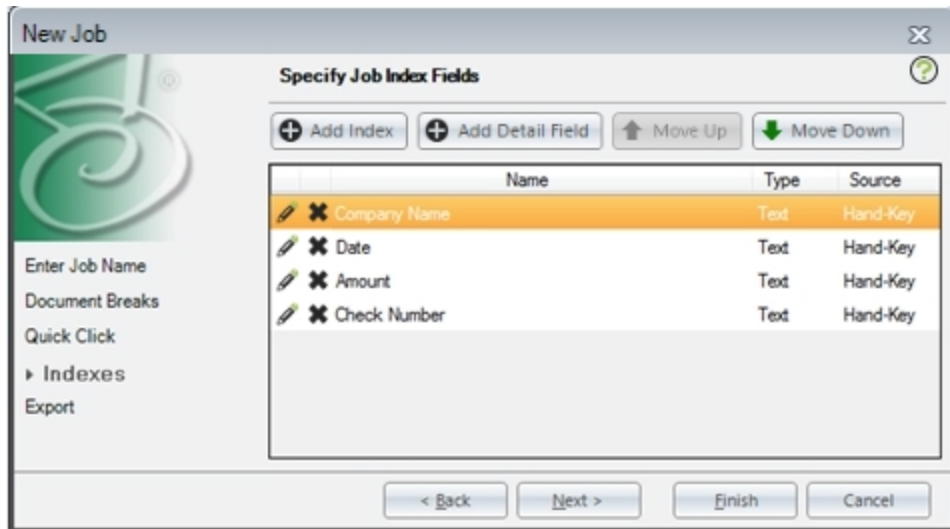
5. Since this script is designed to import the documents exactly as they were created in the data group, it is not necessary to define any document breaks. From the **Document Breaks** dialog, leave the **Automatically Insert Document Breaks** option set to **None**. Click **Next** to continue configuring the job.

6. From the **Quick Click** dialog, it is not necessary to change the **Quick Click Indexing** default options. Click **Next** to continue configuring the job.
7. You must create the same index fields that are included in the data group to be imported. From the **Specify the Job Indexes** dialog, click the **Add Index** button to create each index field needed.

The screenshot shows a dialog box titled "New Job" with a close button in the top right corner. On the left side, there is a sidebar with a tree view containing the following items: "Enter Job Name", "Document Breaks", "Quick Click", "► Indexes" (which is selected), and "Export". The main area of the dialog is titled "Add New Index" and contains three input fields: "Name" with the text "Index 1", "Type" with a dropdown menu showing "Text", and "Source" with a dropdown menu showing "Hand-Key". At the bottom of the dialog, there are four buttons: "< Back", "Next >", "Finish", and "Cancel".

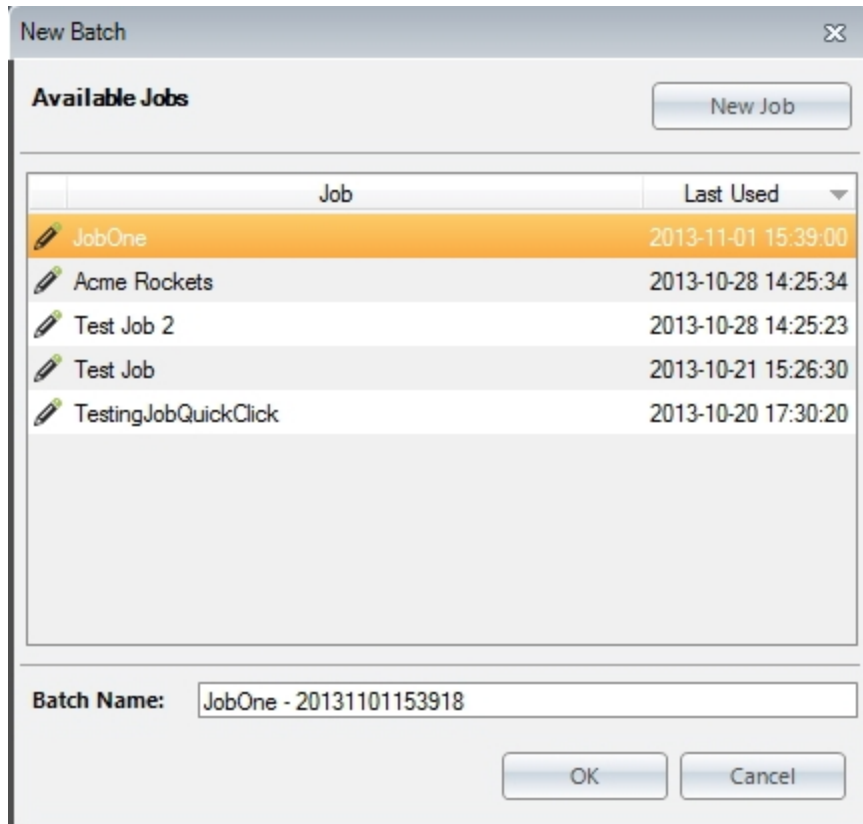
New Job - Add New Index

8. From the **Add New Index Field** dialog, enter data for the following fields:
 - a. **Name:** Enter the same name as your index field
 - b. **Type:** Select the same type of field as your index field
 - c. **Source:** Leave this field defined as Hand-Key
9. Repeat steps 7 and 8 for all other index fields included in the data group.



New Job - Specify Job Index Fields

- After creating all of the index fields needed for the job, click **Finish** to create the job and return to the **New Batch - Available Jobs** widow.



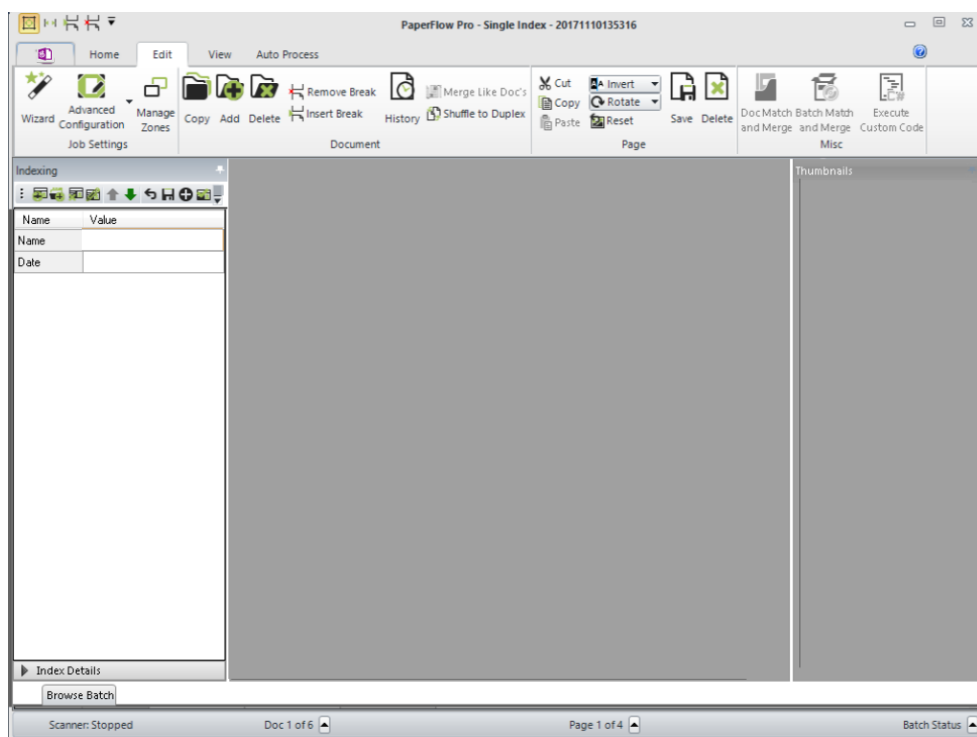
New Batch - Available Jobs

11. From the **New Batch - Available Jobs** window, you can choose to either use the default batch Name (as shown above) or enter a new unique batch name. Click **OK** to save the job configuration and create the necessary batch.

Configure the Data Group Import Script

The following steps will walk you through configuring and executing the Data Group Import script.

1. From the PaperFlow (.NET) application, click the **Edit** tab.



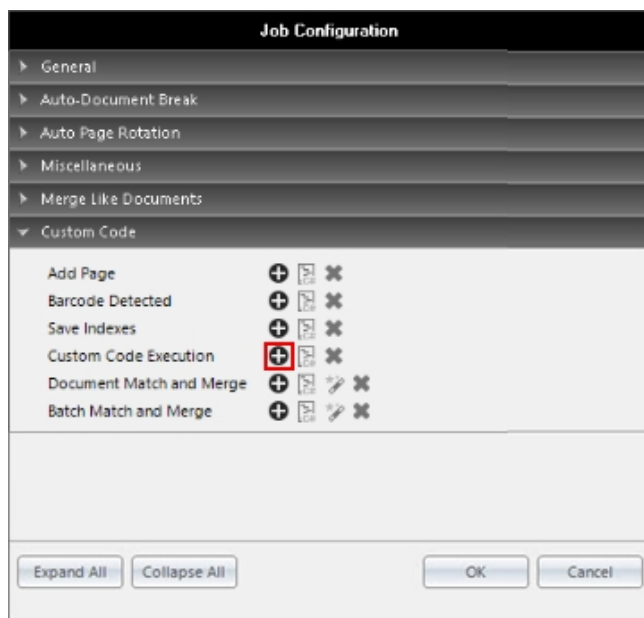
Edit Tab

2. Click **Advanced Configuration** located in the Job Settings section of the toolbar.



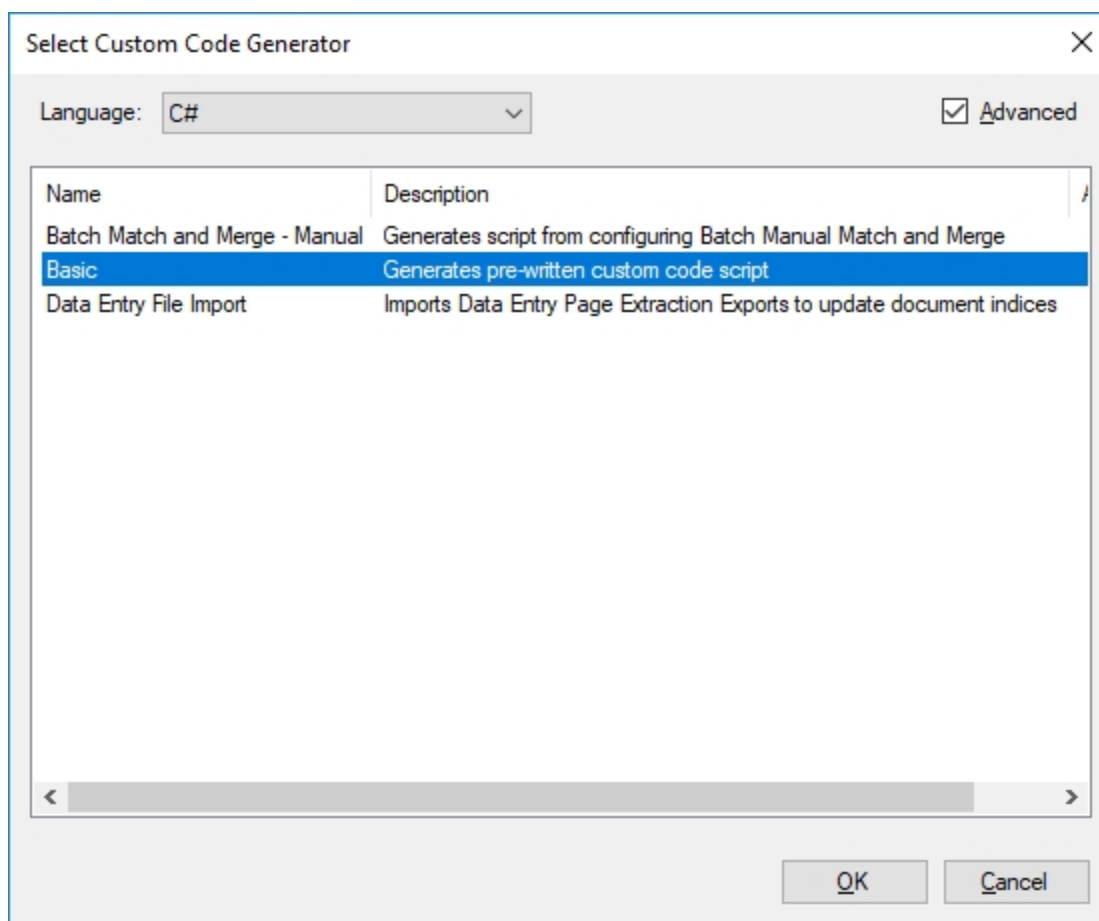
Job Configuration dialog

- From the **Job Configuration** dialog, click the arrow to expand the Custom Code option.



Job Configuration - Custom Code Execution

- Click **Add** next the **Custom Code Execution** option.



Select Custom Code Generator

5. From the **Select Custom Code Generator** dialog, ensure the Basic script is selected (highlighted), then click **OK**.

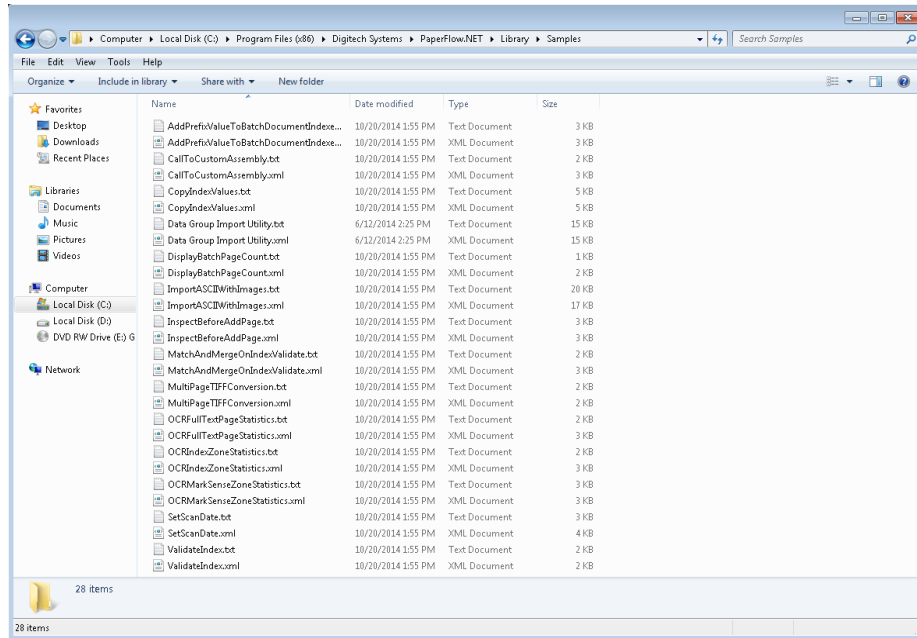
```

/*
 * Version: 77.0
 * Generated Date: 10/21/2013
 * Modified Date: 10/21/2013
 */
using System;
using System.Xml;
using DSI.Capture.API;
using System.Data.OleDb;
using System.Data;
using System.IO;
using System.Collections;
using System.Collections.Generic;

namespace DSI.Capture.ScriptingLibrary
{
    public class Code : CodeBase, ICode
    {
        /// <summary>
        /// Entry point
        /// </summary>
        /// <returns></returns>
        public void CallHandler()
        {
            //Your code goes here
        }
    }
}
    
```

Script Editor

6. From the **Script Editor** dialog, click **Import** located on the toolbar to launch Windows Explorer.

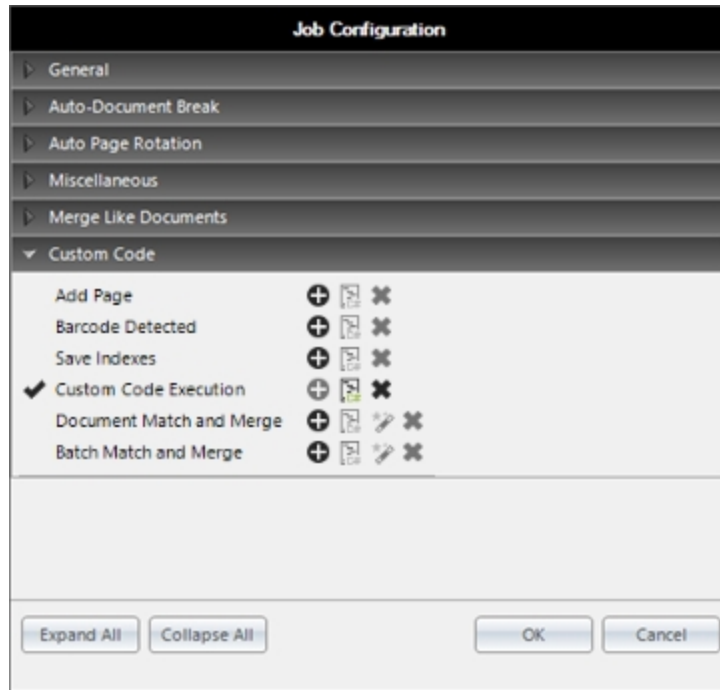


Samples Directory

7. Browse to the location where the **Sample** directory is located. For default installations, the location is C:\Program Files (x86)\Digitech Systems\PaperFlow.NET\Library\Samples. Select

the **Data Group Import Utility.xml** file, then click the **OK** to import this script and return to the **Script Editor** window.

8. The **Script Editor** window now displays the imported script. Click the **OK** button to save the script and return to the **Job Configuration** window.

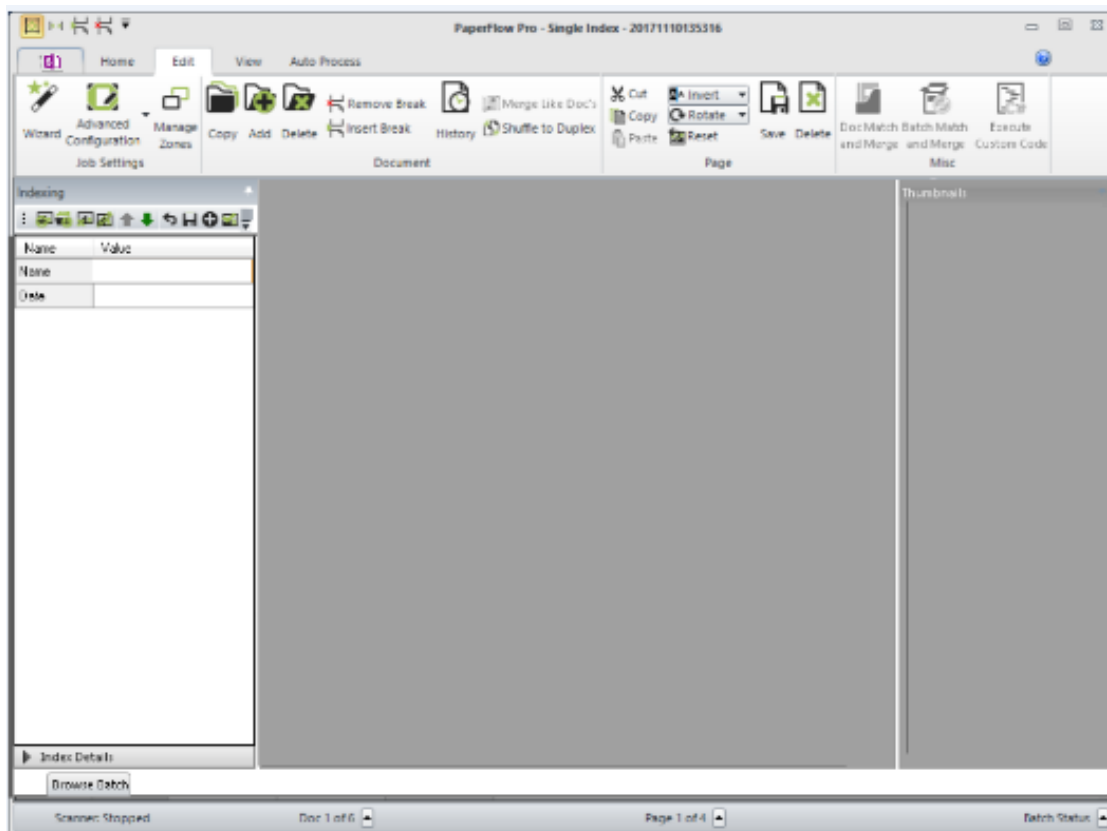


Job Configuration - Custom Code Execution Enabled

9. The **Custom Code Execution** option is now active and available. Click **OK** to return to the batch.

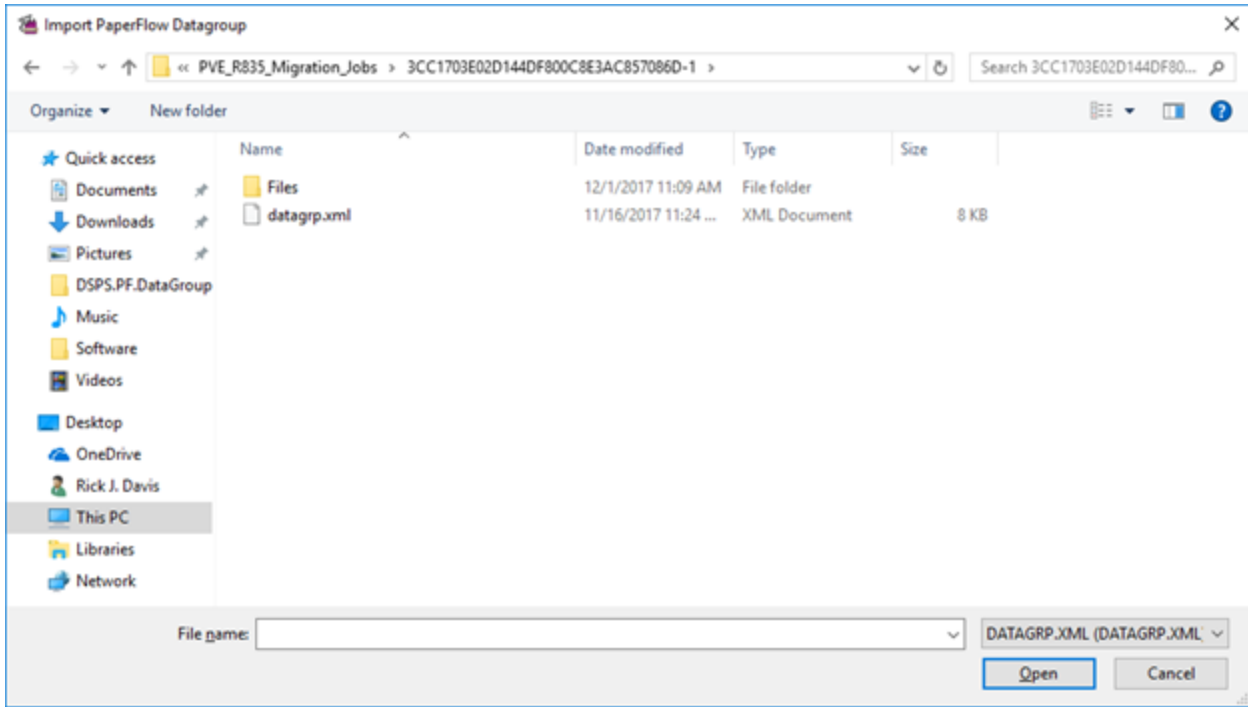
Import the Data Group

The following steps will guide you in importing the data group.

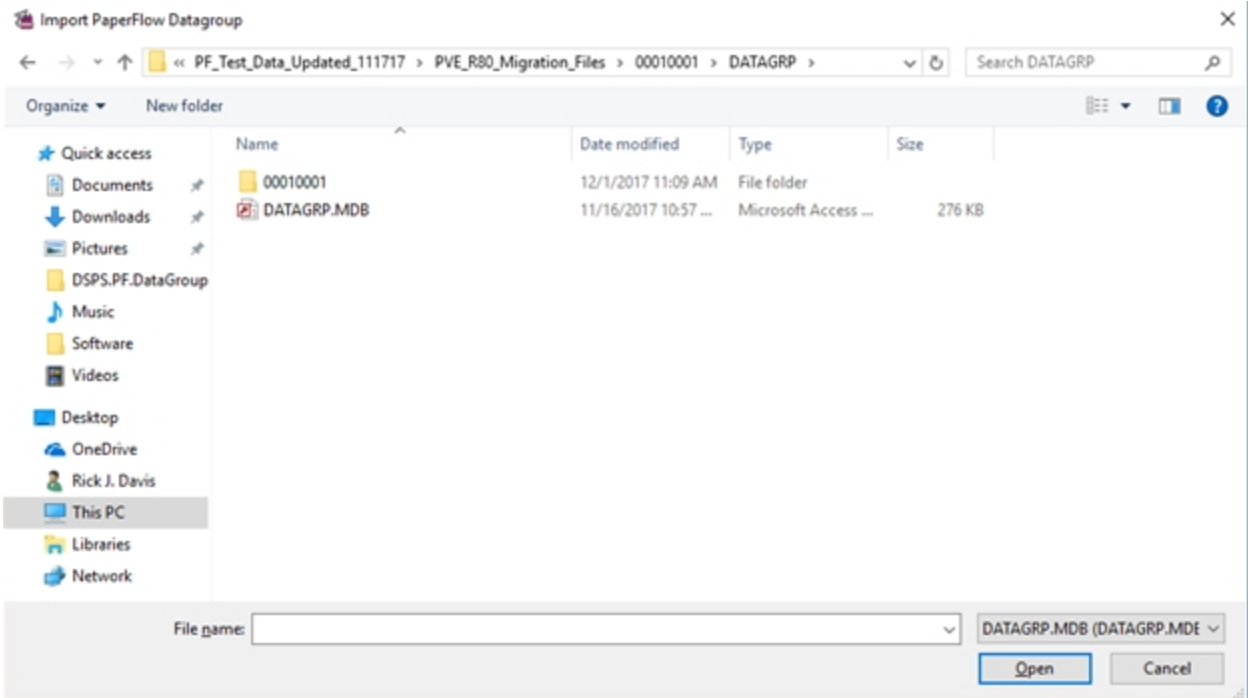


Edit Tab

1. From PaperFlow (.NET), switch to the **Edit** tab.
2. Click **Execute Custom Code** located in the **Misc** section of the toolbar. At the bottom of the window, click the down arrow and choose the type of data group you want to import: **DATAGRP.XML** (selected by default), or **DATAGRP.MDB**.

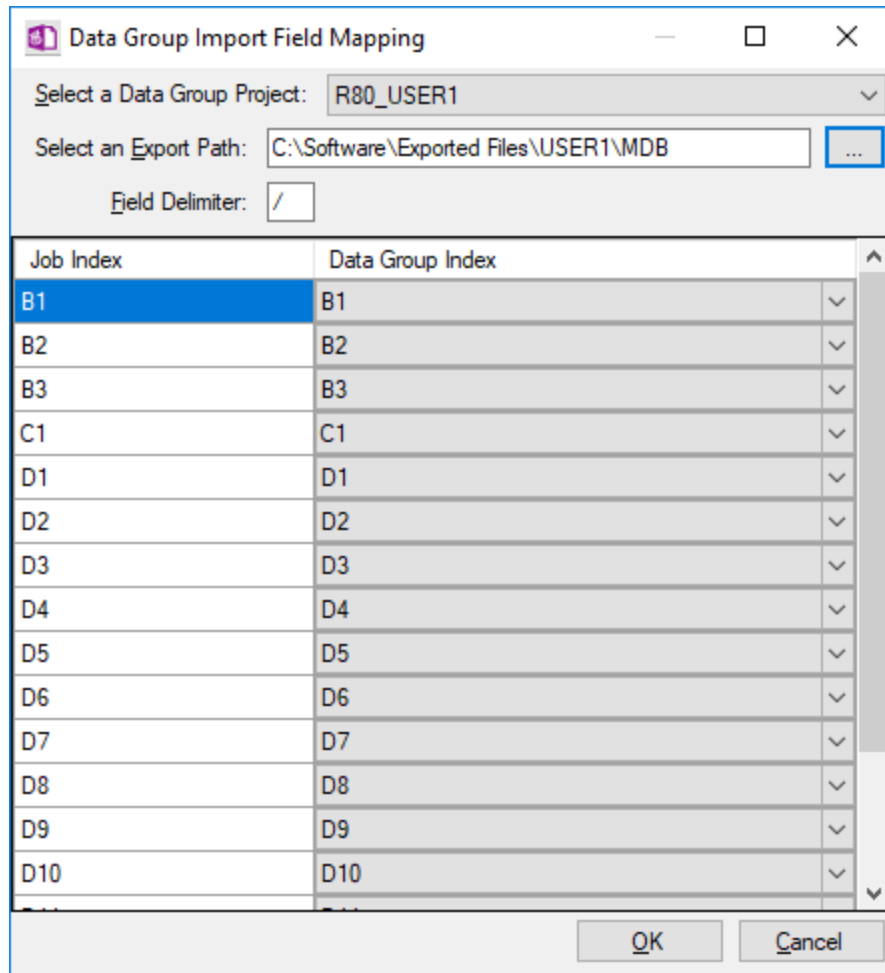


Windows Explorer - DATAGRP.XML



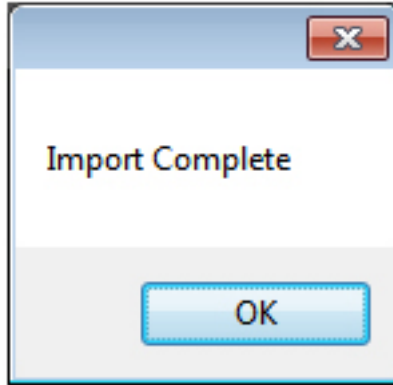
Windows Explorer - DATAGROUP.MDB

- Browse to the location, select the appropriate DATAGRP.XML or DATAGRRP.MDB file, and then click **Open**. The **Data Group Import Field Mapping** dialog box appears.



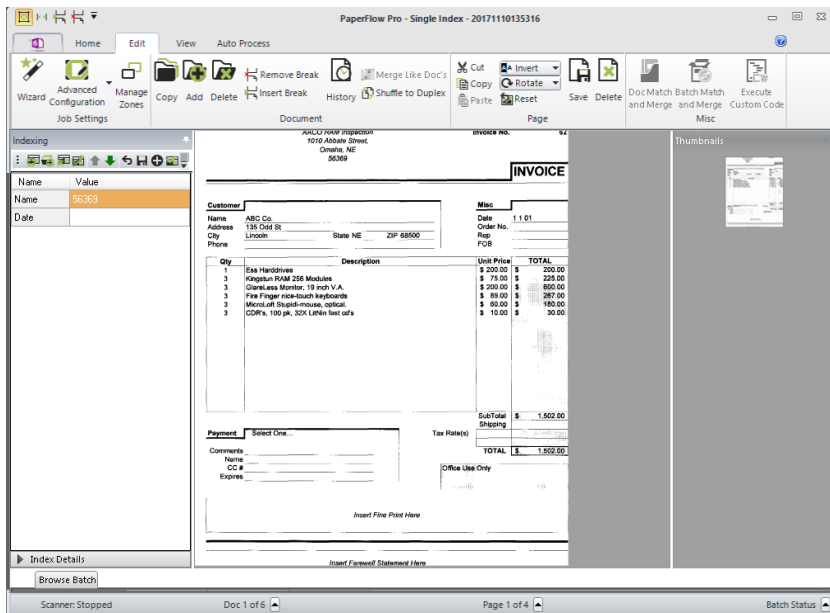
Data Group Import Field Mapping Dialog

- Select the appropriate data group project name from the drop-down list.
- Click the ellipses next to the **Select an Export Path** box, and then select the folder where you want all non-image based documents in the data group stored when the data group is imported. Only image files can be imported into PaperFlow. All other files (.DOC, .PDF, .XLS, etc.) will be exported to the folder you selected.
- During the import process, the index fields you mapped for the project are stored in a .TXT file. In the **Field Delimiter** box, type the delimiter you want to use to separate those index fields.
- The **Job Index** column displays the fields created in PaperFlow, and the **Data Group Index** column displays the fields created in the data group. The fields map automatically if they match. If not, the field will be set to **<Not Mapped>**.
- Click the down arrow next to any **<Not Mapped>** field, and then select the applicable data group field that should be used. After verifying the fields have been mapped correctly, click **OK** to import the data group.



Import Complete

- Once the import finishes, click the **OK** button to return to PaperFlow(.NET).



PaperFlow (.NET) Edit Tab

- The batch is displayed, and all document index field values are automatically populated.

Appendix B Digitech Logging Utility

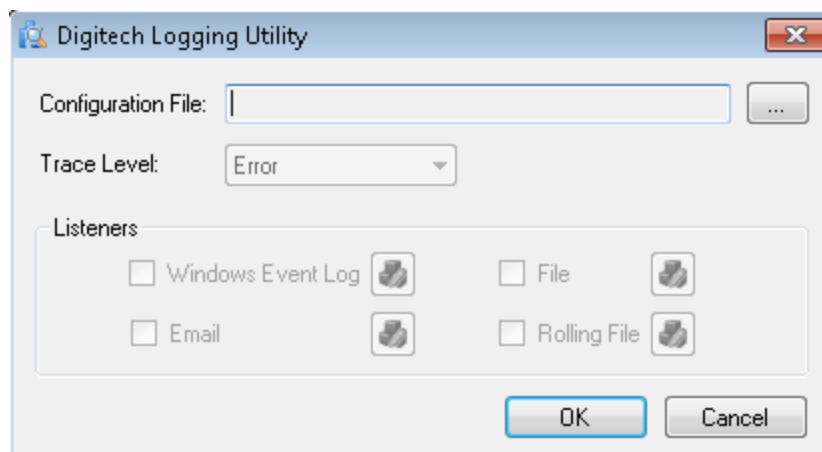
For all Digitech Systems software, logging settings are stored in the application's configuration file. If the executable for your application were named **DigitechApp.exe**, then the name of the corresponding configuration file would be **DigitechApp.exe.config** and it would be located in the same directory as the executable. Configuration files are XML files that you can open and edit using any text editor, including Windows Notepad.

For your convenience, the Digitech Logging Utility is provided so that you can easily change some logging aspects without having to manually edit the XML configuration files. You can use the logging utility to modify configuration files for any Digitech Systems product. The Digitech Logging Utility lets you specify:

- which configuration file to modify,
- the level of detail for the logs,
- where the log information is sent and/or stored,
- and the appearance of the content.

Configuring the Digitech Logging Utility

1. Click **Start**, and then click **All Programs**.
2. Click the **Digitech Systems** folder, and then click **PaperVision Logging Utility**. The **Digitech Logging Utility** dialog box appears.



Digitech Logging Utility

3. Next to the **Configuration File** box, click the ellipsis button to open the **Select Config File** dialog box.
4. Click the **Look in** list to locate the directory where the configuration files are stored (typically, **Program Files\Digitech Systems\PaperFlow.NET\PaperFlow.exe.config**).
5. Click the configuration file for which you want to specify logging properties.

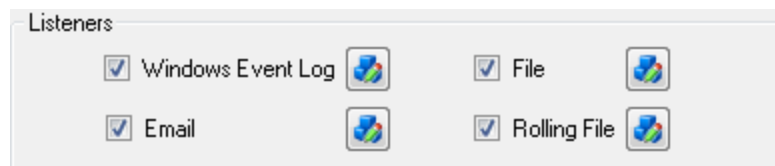
6. Click the **Trace Level** list, and then select one of the following options:
 - **Error** - This option specifies that recoverable errors are logged.
 - **Warning** - This option specifies that non-critical problems are logged.
 - **Information** - This option specifies that informational messages are logged.
 - **Verbose** - This option specifies that debugging trace information is logged.
 - **All** - This option specifies that all possible logging information is included.

NOTE: If you select **Verbose** or **All**, you are requesting the most possible output. These settings can generate a significant amount of output that requires extra processing which could slow application performance.

7. Go to "Configuring Listeners " below to specify where you want the log information to be sent and/or stored.

Configuring Listeners

After you complete the procedure under "Configuring the Digitech Logging Utility" on the previous page you must specify where you want the log information to be sent and/or stored. You do this in the **Listeners** area in the **Digitech Logging Utility** dialog box.




Listeners Area


The following procedures describe how to configure each type of listener.

Configuring the Windows Event Log Listener

When you select **Windows Event Log**, it specifies that you want the log output to appear in the Windows **Event Viewer**. To access the **Event Viewer**, type **eventvwr** at the command prompt, and then press Enter.

1. If you haven't already done so, complete the procedure under "Configuring the Digitech Logging Utility" on the previous page.
2. In the **Listeners** area, select **Windows Event Log**, and then click .
3. In the **Source Name** box, type the name that you want to appear in the **Source** column of the **Event Viewer**, and then click **OK**.
4. If you are done configuring listeners, click **OK**. Otherwise, go to the instructions for the next listener you want to configure.

Configuring the Email Listener


1. If you haven't already done so, complete the procedure under "Configuring the Digitech Logging Utility" on the previous page.
2. In the **Listeners** area, select **Email**, and then click . The **Email Settings** dialog box appears.

3. In the **SMTP Server** box, type the IP address or server name for the SMTP server.
4. In the **SMTP Port** box, type the applicable port number.
5. In the **To Address** box, type the email address to which the log information will go.
6. In the **From Address** box, type the email address from which the log information will be sent.
7. In the **Subject Line Starter (Optional)** box, type the subject you want to appear in the email notifications.
8. Click **OK**.
9. If you are done configuring listeners, click **OK**. Otherwise, go to the instructions for the next listener you want to configure.

Configuring the File Listener

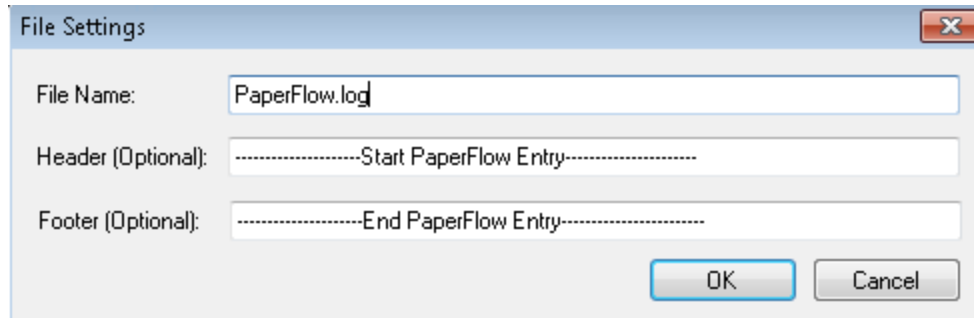
When you select **File**, it specifies that you want the log output to go to a file. So that you can easily locate the log file, you can specify the path and file name. The path you specify can contain any environment variable. The variable is resolved when the log is output. (To see a list of all the environment variables configured on your machine, go to a command prompt, type **set**, and then press Enter.)

If you specify a directory with the file name, and that directory does not exist, the logging utility will create it. For example, if you type **C:\temp\logs\dsi.log** for the file name, the logging utility will create the **C:\temp\logs** directory if it does not already exist. When using the **File** option, log entries will continue to accumulate in the same file, and this can cause the file to become very large. If you do not want to manually maintain this file, consider using the **Rolling File** option described under "Configuring the Rolling File Listener" on the next page.

1. If you haven't already done so, complete the procedure under "Configuring the Digitech Logging Utility" on page 355.
2. In the **Listeners** area, select **File**, and then click . The **File Settings** dialog box appears.
3. In the **File Name** box, type the path and/or file name for the log. If you do not include a path, the file you specify will be written to the Digitech installation directory.
4. (Optional) In the **Header** box, type a header that you want to appear at the beginning of each log entry in the file.
5. (Optional) In the **Footer** box, type a footer that you want to appear at the end of each log entry in the file.
6. Click **OK**.
7. If you are done configuring listeners, click **OK**. Otherwise, go to the instructions for the next listener you want to configure.

Usage Example:

If your entries looked like this,



then the log entry would appear similar to the following.


```
-----Start PaperFlow Entry-----
Timestamp: 4/7/2014 5:22:02 PM
Message: Accepting connections...
Category: Operational
EventId: 100
Severity: Information
Machine: BOBR-NOTEBOOK
OS Version: Microsoft Windows NT 6.1.7601 Service Pack 1
Application Domain: PaperFlow.exe
Process Id: 10932
Process Name: C:\dsi\bin\PaperFlow.exe
Win32 Thread Id: 5332
Thread Name:
-----End PaperFlow Entry-----
```

Configuring the Rolling File Listener

When you select **Rolling File**, it specifies that you want the log output to go to a file, but to prevent the file from becoming too large, a new file is created based on the current date and time and the time interval that you specify. By default, the contents of a rolling file are abbreviated in comparison to the contents of a regular file.

So that you can easily locate the log file, you can specify the path and file name. The path you specify can contain any environment variable. The variable is resolved when the log is output. (To see a list of all the environment variables configured on your machine, go to a command prompt, type **set**, and then press Enter.) Additionally, if you specify a directory with the file name, and that directory does not exist, the logging utility will create it. For example, if you type **C:\temp\logs\dsi.log** for the file name, the logging utility will create the **C:\temp\logs** directory if it does not already exist.

The **Rolling File** option also supports the use of macros that are expanded when the file is written. Supported macros include: **{machineName}**, **{processID}**, **{timeStamp}**, or **{webSiteID}**.

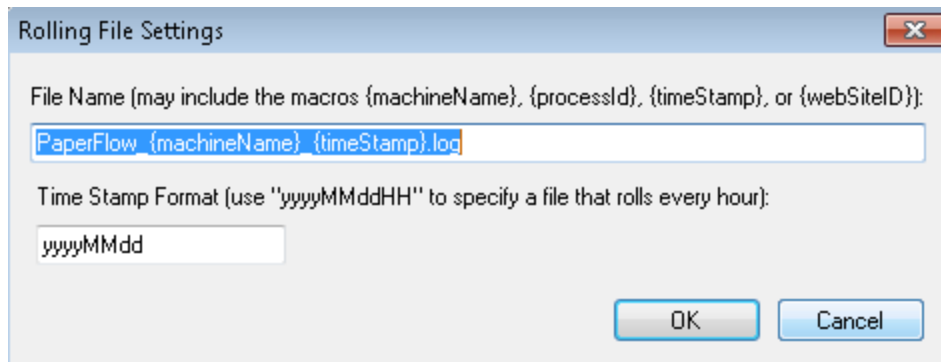
1. If you haven't already done so, complete the procedure under "Configuring the Digitech Logging Utility" on page 355.
2. In the **Listeners** area, select **Rolling File**, and then click . The **Rolling File Settings** dialog box appears.
3. In the **File Name** box, type the path and/or file name for the log. If you do not include a path, the file you specify will be written to the Digitech installation directory. You can also include macros in this box.

NOTE: To specify a time interval for the creation of a new file, you must include the **{timeStamp}** macro in the **File Name** box.

4. In the **Time Stamp Format** box, specify the time interval for the creation of a new file. Use the **yyyyMMddHH** format, where **yyyy** equals the year, **MM** equals the month, **dd** equals the numerical day, and **HH** equals the hour in a 24-hour format. You control the interval by using only the portion of the format you want. For example, to create a new rolling log file on a daily basis, you would type **yyyyMMdd**. If you wanted a new rolling log file to be created on an hourly basis, you would type **yyyyMMddHH**.
5. Click **OK**.
6. If you are done configuring listeners, click **OK**. Otherwise, go to the instructions for the next listener you want to configure.

Usage Example:

If your entries looked like this,



the output file would be **PaperFlow_BOBR-NOTEBOOK_20140407.log**.

The contents of a rolling file are abbreviated similar to the following sample.

```

2014-04-07 17:31:23 Accepting connections...
2014-04-07 17:31:23 New incoming connection: 127.0.0.1
2014-04-07 17:31:23 Inside TryCheckSystemVersion_7_062413_
2014-04-07 17:31:23 Login user successfully with user name U and entityId 1
2014-04-07 17:31:23 Command from 127.0.0.1 processed successfully
2014-04-07 17:31:23 Client 127.0.0.1 disconnected (gracefully)
2014-04-07 17:31:23 Enabling manual .NET garbage collection every 300 seconds

```


2014-04-07 17:31:23 New incoming connection: 127.0.0.1
2014-04-07 17:31:23 Command from 127.0.0.1 processed successfully
2014-04-07 17:31:23 Client 127.0.0.1 disconnected (gracefully)
2014-04-07 17:31:23 New incoming connection: 127.0.0.1
2014-04-07 17:31:23 Command from 127.0.0.1 processed successfully
2014-04-07 17:31:23 Client 127.0.0.1 disconnected (gracefully)
2014-04-07 17:31:25 New incoming connection: 127.0.0.1
2014-04-07 17:31:26 Saved User ID 2 preferences
2014-04-07 17:31:26 Command from 127.0.0.1 processed successfully
2014-04-07 17:31:26 Client 127.0.0.1 disconnected (gracefully)
2014-04-07 17:31:26 New incoming connection: 127.0.0.1
2014-04-07 17:31:26 Command from 127.0.0.1 processed successfully
2014-04-07 17:31:26 Client 127.0.0.1 disconnected (gracefully)