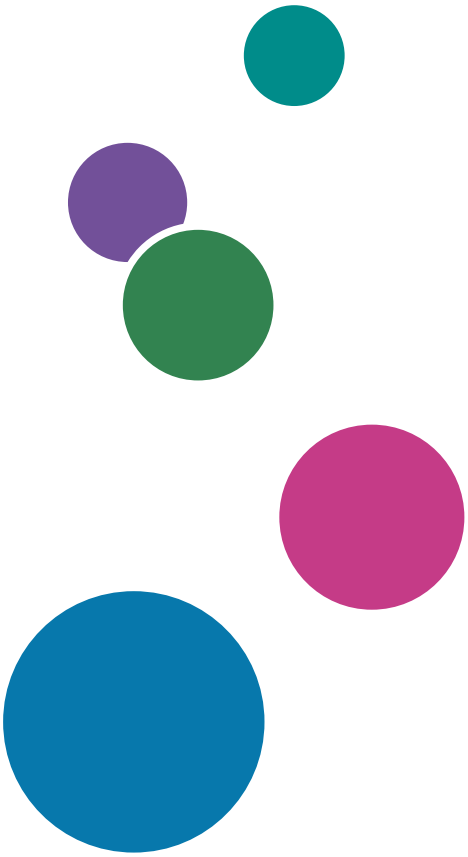
RICOH

RICOH Transforms Suite

AFP Visual Environment: Installing, Configuring, and Using

Version 1.4.2

For information not in this manual, refer to the Help System in your product.



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Introduction

Important

To the maximum extent permitted by applicable laws, in no event will the manufacturer be liable for any damages whatsoever arising out of failures of this product, losses of documents or data, or the use or non-use of this product and operation manuals provided with it.

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Publications for RICOH Transforms Suite

This section provides a list of all the publications for RICOH Transforms Suite.

Instruction manuals

- **AFP2PDF PLUS**
  For information about AFP2PDF PLUS, see these documents:
  - *AFP2PDF Plus User Guide - 1.4.2*
  - *AFP2PDF Plus Quick Start Guide*
  - *AFP2PDF Plus Setup Guide 1.4.2*
  - *AFP2PDF Plus Release Notes 1.4.2*
  - *AFP2PDF Plus - Summary of Updates*
- **AFP Visual Environment**
  For information about AFP Visual Environment, see these documents:
  - *AFP Visual Environment User Guide 1.4.2*
  - *AFP Visual Environment Release Notes 1.4.2*
- **AFPMerge**

For information about AFPMerge, see these documents:

- *AFPMerge User Guide 1.4.2*
- *AFPMerge Release Notes 1.4.2*

- **Line2PDF Plus**
  For information about Line2PDF Plus, see these documents:
  - *Line2PDF Plus User's Guide 1.4.2*
  - *Line2PDF Release Notes 1.4.2*
- **PCL2PDF**
  For information about PCL2PDF, see these documents:
  - *PCL2PDF User's Guide 1.4.2*
  - *PCL2PDF Release Notes 1.4.2*
- **PS2PDF**
  For information about PS2PDF, see these documents:
  - *PS2PDF User's Guide 1.4.2*
  - *PS2PDF Release Notes 1.4.2*
- **Tiff2PDF**
  For information about Tiff2PDF, see these documents:
  - *Tiff2PDF Plus User Guide 1.4.2*
  - *Tiff2PDF Plus Release Notes 1.4.2*

Symbols

The following symbols are used in this manual to help you to identify content quickly.

Important

- This symbol indicates points to pay attention to when using the product. Be sure to read these explanations.

Note

- This symbol indicates helpful supplementary information that is not essential to completing a task.

Bold	**Bold type** indicates the names of commands and parameters.
Bold underline	**Underlined bold type** indicates the default value.
Italic	*Italic type* indicates variables that you must replace with your own information.
Monospace	Monospace type indicates computer input and output and file names.
[]	Square brackets indicate that a value is optional.

|	A vertical bar indicates a choice between values.
...	An ellipsis indicates that a series can continue.

Abbreviations

AFP

Advanced Function Presentation

GIF

Graphical Interchange Format

IP

Internet Protocol

JPEG

Joint Photographic Experts Group

PCL

Printer Command Language

PDF

Portable Document Format

TIFF

Tagged Image File Format

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1. Overview

AFP Visual Environment lets you enhance AFP files without changing the applications that create the AFP files. For example, you can use AFP Visual Environment to index AFP files and to add bar codes in AFP files. The AFP files that you enhance must contain data in Mixed Object Document Content Architecture for Presentation (MO:DCA-P) format.

You can enhance AFP files that contain MO:DCA-P data in different ways depending on which components of AFP Visual Environment are installed:

- The AFP Indexer component lets you create AFP page groups and indexes, and define supplemental pages.
- The AFP Editor component lets you create bar codes and text, and hide areas that contain unwanted content, such as obsolete bar codes.
- The Whitespace Manager component lets you define available areas of white space in AFP files and then fill the white space with content, such as images and text, during the print production process.
- The Pipeline Manager component lets you configure and run a set of filters, in a specific order, to process large AFP files quickly and efficiently.

AFP Visual Environment can make the same enhancements on the same pages in all page groups in the AFP file. **Page groups** are AFP structures that organize AFP files into smaller, uniquely identifiable units. For example, if an AFP file contains several bank statements that all have the same format, each statement can be a page group.

System overview

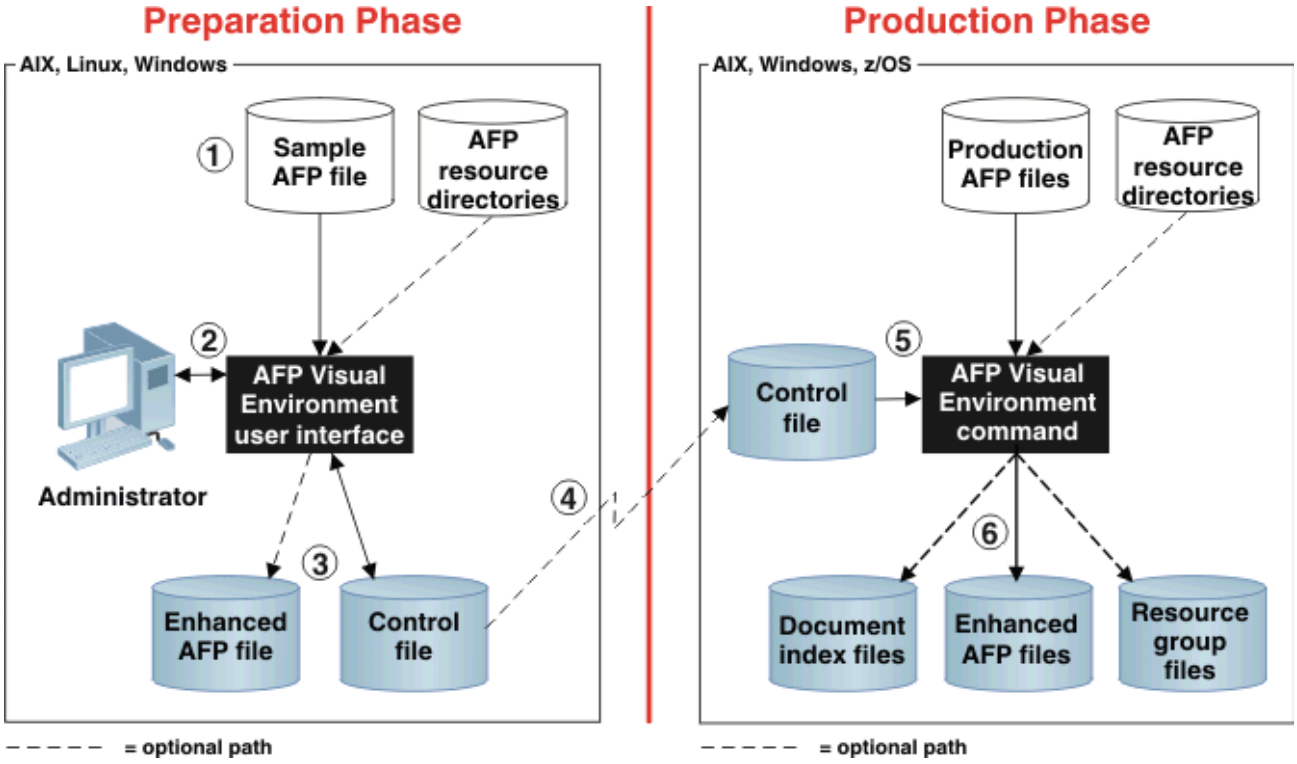
AFP Visual Environment has a preparation phase and a production phase.

- **Preparation phase:** During this phase, you use the AFP Visual Environment user interface to define the enhancements you want to make using a sample AFP file. A **sample AFP file** is a file that is representative of your production AFP files. The user interface can run on IBM AIX, Linux, or Microsoft Windows systems.
- **Production phase:** During this phase, you run an AFP Visual Environment command to enhance your production AFP files in the same way that you enhanced the sample AFP file. The AFP Visual Environment commands can run on IBM AIX, IBM z/OS, or Microsoft Windows systems.

The preparation and production phases can run on the same system, or you can complete the preparation phase on one system and then run the production phase on another system.

AFP Visual Environment system overview, p. 12 provides an overview of how AFP Visual Environment works.

AFP Visual Environment system overview



AFP Visual Environment system overview, p. 12 shows this process:

1. The administrator selects a sample AFP file that is representative of the production AFP files that you want to enhance. The AFP resources that the AFP file references (fonts, page segments, and overlays) can be inline or in resource directories accessible to the user interface.

   If the sample file contains line-mode or mixed-mode data, the administrator must first use the AFP Conversion and Indexing Facility (ACIF) program to convert data to MO:DCA-P format.

2. The AFP Visual Environment user interface displays the sample AFP file. The administrator uses the user interface to visually enhance the sample AFP file. For example, the administrator can select the text to use as a trigger to create page groups, select the text to index, draw a box to cover an unwanted bar code, and create a new bar code.

3. AFP Visual Environment creates a **control file** that contains definitions for all the enhancements made to the sample AFP file.

   As an option, AFP Visual Environment can create an AFP file that contains the data in the sample file and the enhancements defined in the control file. The administrator can print the enhanced sample AFP file on the production printer to check the enhancements before applying them to production AFP files.

4. Optional: If the production system is different from the preparation system, the administrator sends a copy of the control file to the production system.

5. On the production system, an AFP Visual Environment command makes the same enhancements to production AFP files using the definitions in the control file. AFP resources can be inline or in resource directories accessible to the command.

   You can run the AFP Visual Environment command from the AIX, Windows, or z/OS UNIX command line, or you can use a script or procedure to call the command.

6. An AFP Visual Environment command creates AFP files that contain the enhancements. You can print these files using IBM Print Services Facility (PSF) for z/OS or RICOH InfoPrint Manager™ for AIX and Windows. Or, you can archive the AFP files using IBM Content Manager OnDemand for Multiplatforms.

   As an option, AFP Visual Environment can create these files:

   - **Document index file:** This file contains the index tags (Tag Logical Element structured fields) in the output AFP file. This file is useful if you want to archive an AFP file and use the index file to retrieve information from it.
   - **Resource group file:** This file contains all the AFP resources that the output AFP file references. This file is useful if any AFP resources are not inline and you want to view or print the file on another system that does not contain the AFP resources, or if you want to archive the AFP file so that you can print it later using the original resources.

System requirements

The AFP Visual Environment user interface and the AFP Visual Environment commands can run on the same system or on different systems.

The AFP Visual Environment user interface can run on any of these operating systems with a browser:

- IBM AIX 7.1 or later
- Linux Kernel 2.6.18 or later (x86) with fontconfig package installed.
- Microsoft Windows Server 2016 Standard
- Microsoft Windows Server 2019 Standard
- Microsoft Windows Server 2022 Standard
- Microsoft Windows 10 Pro
- Microsoft Windows 10 Enterprise
- Microsoft Windows 11 Pro

The AFP Visual Environment commands can run on any of these operating systems:

- IBM AIX 7.1 or later
- Microsoft Windows Server 2016 Standard
- Microsoft Windows Server 2019 Standard
- Microsoft Windows Server 2022 Standard
- Microsoft Windows 10 Pro
- Microsoft Windows 10 Enterprise
- Microsoft Windows 11 Pro
- Linux Kernel 2.6.18 or later (x86) with fontconfig package installed.

The AFP Visual Environment user interface and commands require Java Runtime Environment 64bit version 1.8 or later with multi-language support and administrator rights to be installed..

AFP Visual Environment does not require any network communication. As a consequence, it works with computers configured with any network configuration (IPv4 or IPv6).

User interface

You use the AFP Visual Environment user interface to display and enhance sample AFP files.

The AFP Visual Environment user interface can display one AFP file at a time–up to 1,000 pages. It can display:

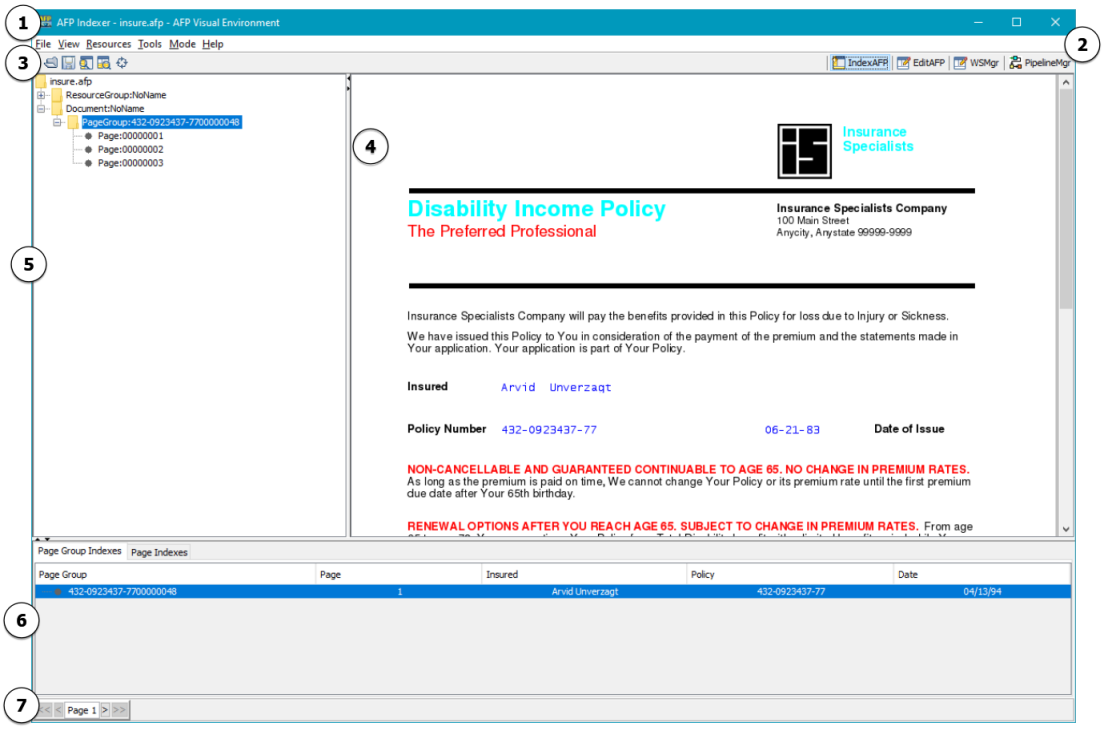
- Bar Code Object Content Architecture (BCOCA) objects: POSTNET barcodes, Intelligent Mail barcodes (IMBs), Interleaved 2of5, Code39, and QR Code
- Graphics Object Content Architecture (GOCA) objects
- IM1 and Image Object Content Architecture (IOCA) images
- Index tags (also called Tag Logical Elements or TLEs)
- Joint Photographic Experts Group (JPEG) images
- Medium map information in a form definition, including overlay, page, and sheet information
- Overlays
- Page segments
- Text, including outline fonts, double-byte character set (DBCS) fonts, and text barcodes (text barcodes use barcode fonts)

The user interface cannot display all AFP objects, and it might not display some text and AFP objects with complete fidelity. These are the limitations:

- **BCOCA objects:** The user interface can only display POSTNET, IMB, Interleaved 2of5, Code39, and QR Code BCOCA objects. For other types of BCOCA objects, it displays a box the size of the barcode area. It cannot display any human-readable interpretation (HRI) text.
- **Form definitions:** The user interface does not apply any modifications in the form definition (such as print direction, page position, constant back, and N_UP page positioning).
- **Images:** Images might differ from printed images because of color differences and resolution differences between monitors and printers.
- **Text:** The user interface cannot display user-defined characters in DBCS fonts.

The user interface has several modes. The modes that are available depend on the components that are installed. Each mode lets you make different enhancements. The AFP Indexer mode lets you create page groups and index tags. The AFP Editor mode lets you create barcodes, text, and hidden areas. Whitespace Manager lets you create definitions for white space and fill the white space with content. .

This diagram shows the major parts of the user interface. It shows the title bar, menu bar, toolbar, AFP file, file-structure pane, index pane, and status bar.



1. Title Bar
2. Menu bar
3. Tool bar
4. AFP file
5. Page pane
6. Index pane
7. Status bar

Title bar

The title bar at the top of the window identifies the mode that is active, the AFP file that is open, and any control file that is open.

Menu bar and toolbar

The menu bar is below the title bar. Below the menu bar is the toolbar, which contains icons for the most common functions available on the menu bar. The options on the menu bar and toolbar vary depending on whether an AFP file is open. If an AFP file is not open, you see only the **File** and **Help** options. If an AFP file is open and a mode is selected, you see all options.

The menu bar options, with the keyboard shortcuts and toolbar icons, are:

File

The **File** menu options are:

Open AFP File (Ctrl+O)

Opens the AFP file that you want to enhance. If another AFP file is already open, it is automatically closed. If you have not saved the control file for the AFP file that is already open, AFP Visual Environment lets you save the control file before it opens the new AFP file.

Open Control File

Opens an existing control file that you created previously.

Reset

Closes the current AFP file and clears cached resources from memory.

Save Control File (Ctrl+S) 

Saves the control file for the open AFP file. A control file with the same name is overwritten.

Save Control File As

Saves the control file for the open AFP file. You can specify a name and directory for the control file.

Save Plug-in Output

Saves the sample AFP file with any enhancements that were made. After you save the file, you can print and verify the enhancements. You can specify a name and directory for the output file.

Exit

Stops AFP Visual Environment. If you have not saved the control file for the AFP file that is open, AFP Visual Environment lets you save it.

View

The **View** menu options are:

File View 

Displays the inline resource group and the page structure of the AFP file in the left pane. You can double-click a page to display it.

Index View 

Displays the index tags and the index tag values for the AFP file in the bottom pane. You can double-click a page group to display the first page of the page group.

Rotate by 90° (Ctrl+R) 

Rotates the AFP file clockwise in increments of 90 degrees so that you can view it more easily.

Units

Displays measurement units in inches (USA default) or millimeters (non-USA default).

Zoom

Changes the display size of the AFP file by the percentage you select.

Resources

The **Resources** menu options are:

Change Form Definition Settings

Lets you specify whether form definitions and medium maps are used. If so, you can specify that an inline form definition is used or specify a directory for a default form definition.

Enable Object Selection

Indicates which objects you can select in the AFP file for the active mode. The selectable objects change when you select a new mode or open a new AFP file.

Modify Default Encoding

Lets you specify the default code page encoding.

Modify Font Mapping

Lets you modify defined character set, coded font, and code page font mappings.

Show Page Information

Shows the AFP resources that the page refers to and whether they were found and where.

Specify Resource Directories

Lets you specify the directories that contain AFP resources, such as fonts.

Tools

The **Tools** menu options vary depending on which mode is active. If no mode is active, no options are available. Tool menu options, p. 17 shows the tools menu options that are available for each active mode.

Tool menu options

Mode	Option	Description
AFP Editor	**Modify Definitions**	Lets you modify or delete definitions for barcodes, text, operators, hidden areas, and text masks.
	Import user exit	Lets you work with exits.
AFP Indexer	**Header and Trailer Pages**	Lets you define the number of header and trailer pages and indicate whether the pages are contained in the final output.
	Index Tools	Lets you create indexes from page group NOP records – on a page or outside a page, relocate page indexes to page groups, or edit existing indexes.
	Modify Definitions	Lets you modify or delete definitions for page groups and index tags.

Mode	Option	Description
	Other Page Groups	Lets you use existing page groups or create fixed-length page groups.
	Manage Comments	
	Import user exit	Lets you work with exits.
Whitespace Manager	**Manage Campaigns**	Lets you assign image and text content to defined white space areas.
	Modify Definitions	Lets you modify or delete definitions for white space areas.
Pipeline Manager	**Manage Pipeline**	Lets you configure and run a set of filters, in a specific order, to quickly and efficiently process large AFP files.

Mode

The **Mode** menu options vary depending on which components are installed.

You must select a mode before you can enhance an AFP file. The possible modes are:

AFP Editor

Creates definitions for barcodes, hidden areas, text strings, and text masks in the control file.

AFP Indexer

Creates definitions for page groups and index tags in the control file.

Whitespace Manager

Creates definitions for white space in the control file and fills the white space with content.

Pipeline Manager

Orders and runs a set of filters.

Help

The **Help** menu options are:

AFP Editor Help

In AFP Editor mode, opens the help topics for AFP Editor.

AFP Indexer Help

In AFP Indexer mode, opens the help topics for AFP Indexer.

Whitespace Manager Help

In Whitespace Manager mode, opens the help topics for Whitespace Manager.

Pipeline Manager

In Pipeline Manager mode, opens help topics for Pipeline Manager.

Help Contents (F1) 

Opens the help topics for the AFP Visual Environment user interface.

About

Displays the version number of AFP Visual Environment and the contact information for obtaining assistance.

AFP file

The main pane displays the AFP file. You can see text (including text barcodes that use fonts), images, overlays, page segments, GOCA objects, and some types of BCOCA barcode objects.

File-structure pane

The left pane displays the page structure of the AFP file. You can double-click a page to display it. If the AFP file contains page groups, this pane also shows the page groups. You might also see a resource group entry at the top of the page structure if the file contains inline AFP resources, such as overlays and page segments.

Index pane

The **Indexes** tab in the bottom pane displays the index tags that exist in the AFP file and that are defined in the control file. For each index tag, you see the value of the index tag in each page group. You can double-click a page group to display the first page of the page group.

Status bar

The status bar at the bottom of the window displays the number of the current page in the AFP file. If text is selected in the AFP file, it also displays the origin of the text block (X and Y position in inches or millimeters).

Control files

AFP Visual Environment control files contain information about the enhancements made to sample AFP files. AFP Visual Environment commands use control files to make the same enhancements to production AFP files.

When you enhance a sample AFP file, AFP Visual Environment creates a control file that contains information about how to make the enhancements. The enhancements are not made in the sample AFP file. To see the enhancements when you open the sample AFP file in a subsequent session, you must also open the control file that was used to enhance the sample file.

If you enhance the same sample AFP file (or a similar AFP file) again in another session, AFP Visual Environment can use the same control file. All enhancements for the sample AFP file must be defined in the same control file. AFP Visual Environment can add all enhancements to the same control file regardless of which component you use to make the enhancements.

Unless you change the name of the control file and its directory path, the control file has the same name as the sample AFP file with a `.ctl` extension and is saved in the same directory as the sample file. If you want to use a different naming scheme, use one that associates the sample AFP file with its control file.

Commands

The AFP Visual Environment commands use the information in the control file to make the same enhancements to a production AFP file that the administrator made to the sample AFP file. The commands create new AFP files with the enhancements; they do not update the production AFP files.

The AFP Visual Environment commands are:

- **EditAFP:** This command applies the definitions in the control file to hide areas, create bar codes, and mask text in a production AFP file. It is available only if AFP Editor is installed.
- **IndexAFP:** This command applies the definitions in the control file to create page groups and index tags in a production AFP file. It is available only if AFP Indexer is installed. The IndexAFP command can also create a document index file and a resource group file.
- **PluginMgr:** This command can run EditAFP, IndexAFP, or both. It can apply all the definitions in the control file to a production AFP file. If you want to apply all the definitions in a control file to production AFP files, it is more efficient to use PluginMgr than to run the EditAFP and IndexAFP commands separately.

Document index files

The IndexAFP command and the PluginMgr command can create a document index file that contains all the index tags in a production AFP file. The index tags can be defined in the AFP file itself or in the AFP Visual Environment control file.

The document index file lets you use an archival and retrieval application, such as IBM Content Manager on Demand, to retrieve a page group within the AFP file based on its index values.

For example, if the account number in an AFP file is indexed, or if the data encoded in the Intelligent Mail™ bar codes (IMBs) is indexed, you can use an account number or IMB data to retrieve the relevant page group.

AFP Indexer

AFP Indexer lets you create page groups, define supplemental pages, and create indexes in AFP files. When you view an AFP file that contains page groups and indexes, you can navigate in the file to find pages containing specific index values.

AFP Indexer can also create a resource group file for each production AFP file. This file can help you print the archived AFP file at a later date with the original resources.

Page groups

AFP Indexer lets you organize a large AFP file into smaller, uniquely identifiable units, called **page groups**.

You can create page groups in these ways:

- You can create page groups that have a fixed number of pages. For example, each page group can be three pages long. You can also exclude a certain number of pages at the beginning of the AFP file from the page groups. For example, if the AFP file contains two pages of introductory

information, AFP Indexer can skip the first two pages and create the first page group on the third page.

- You can use **triggers** to define the page groups. A trigger is a block of text in the AFP file that occurs in a consistent location on the first page of all page groups and can contain the same text. As an option, you can also use triggers to indicate the end of page groups. For example, the block of text that indicates the start of the page group might contain the text “Page 1” and the block of text that indicates the end of the page group might contain the text “Page 3”. If necessary, you can use multiple triggers to uniquely identify a new page group.

For example, a bank-statement application produces a file with hundreds of individual customer statements. Each statement has the same general format, although statements might vary in size or number of pages. Each statement contains the page number, an account number, a date, and the customer's address. With AFP Indexer, you create triggers that define the group boundaries in the file; in this example, one trigger could be the text “Page 1” that occurs on the first page of every statement and another trigger could be the text “Account Summary” that occurs on the last page of every statement.

If you create page groups using triggers or if you create page groups of fixed length, all existing page groups and index tags that are defined in the AFP file itself are ignored.

You can define which pages are used for header and trailer pages. AFP Indexer creates the first page group after the defined number of header pages. It creates the final page group before the defined number of trailer pages.

To create more types of triggers than the control file allows, you can use exits. You can import a trigger exit to override the trigger definitions in the control file if you need more options for creating page group boundaries in the AFP file.

Supplemental pages

AFP Indexer lets you define pages in an AFP file as **supplemental pages**. Supplemental pages are those pages that you do not want included in page groups, such as header and trailer pages, separator pages, or any page that should be excluded from a customer statement.

Pages in an AFP file that are defined as supplemental pages can be indexed.

You can define supplemental pages in these ways:

- You can use a trigger to define a block of text that occurs in a consistent location and uniquely identifies a page. If necessary, you can use multiple triggers to identify supplemental pages. For example, you can create a trigger for a block of text that exists on the third page in a page group. The supplemental page is removed from each page group.
- You can use an index tag to define a block of text that occurs in a consistent location on a page that is outside a page group. For example, you can create an index tag for a block of text that exists on the header and trailer pages. You can edit the text value to remove unwanted text such as blanks or special characters.

When you define a supplemental page, you give it a page definition name. You can assign multiple index tags and triggers to the same supplemental page definition.

Note

The term “page definition” in AFP Indexer refers to a supplemental page definition, a page-level trigger, or a page-level index, not the AFP page definition resource.

1

For example, a bank-statement application produces a file with hundreds of individual customer statements. The file contains a header page before the customer statements and a trailer page at the end of the customer statements. Each statement ends with a page that separates it from the next statement. With AFP Indexer, you create triggers that define the header, trailer, and separator pages as supplemental pages with page definition names of Header, Trailer, and Separator. You can then create index tags on the supplemental pages.

Index tags

The AFP Indexer mode of AFP Visual Environment lets you index data values that are consistently present in the same location in each page group or on a supplemental page. **Index tags** define the data values on a page. (Index tags are called **Tag Logical Elements (TLEs)** in the AFP architecture.)

You can create index tags in these ways:

- You can create an index tag for a block of text that occurs in a consistent location on the same page in every page group, on a supplemental page, or on an individual page in a page group. For example, you can create an index tag for a block of text that contains a customer name or an account number. You can edit the text value to remove unwanted text such as blanks or special characters.
- You can create an **index area** that occurs in a consistent location on the same page in every page group or supplemental page and create index tags within the area. Within an index area, you can create index tags that span multiple text blocks on the same line. For example, if one text block on a line contains the first half of an account number and the next text block on the line contains the second half of the account number, you can concatenate the values in the text blocks and create one index tag that spans both blocks of text.
- You can create index tags for an **address area** in a page group or supplemental page. An address area is useful when you want to index mailing addresses that can contain a different number of lines in each page group. For example, the address in one page group might contain four lines, while the address in another page group might contain five lines. Within an address area, you can do specialized functions that apply to addresses. For example, you can create an index tag for a ZIP Code in the U.S. Postal Service format (*nnnnn* or *nnnnn-nnnn*) that occurs on the last line of the address area (or on a line relative to the last line).
- You can create index tags for **No Operation (NOP) records**. A NOP record causes an application to move to the next instruction for processing without taking any other action. NOP records can be found anywhere in a page group–either on a page in the page group or outside the logical AFP pages. NOP records in the AFP file are not viewable or printable, but you can create index tags from the data contained in them. You can create index tags for NOP records that are in the same position in all page groups, but outside a page, or you can create index tags for specific NOP records that are in any location in the page groups–on a page or outside a page.

For example, a bank-statement application produces a file with hundreds of individual customer statements. Each statement has the same general format, although statements might vary in size or number of pages. Each statement contains the page number, an account number, a date, and the customer's address. After you use AFP Indexer mode to create page groups and define supplemental

pages, you create an index tag for the account number and another index tag for the date so that when you view production AFP files, you can display a particular statement based on the account number or date. You might create additional index tags for values in the customer address, such as the ZIP Code, so that you can sort statements (documents) according to ZIP Code before printing. You can use AFP Editor mode to create barcodes that contain the ZIP Code.

If the AFP file is already indexed, you can add new index tags to use with the existing page groups and supplemental pages. You can also update an existing control file for an AFP file and add new index tags to the existing ones.

To create more types of index tags than the control file allows, you can use exits. You can import a user exit to modify existing index tags or to add new index tags. For example, you might want to change the index tag of the customer number to include a 3-character prefix. Or, you might need custom code to create an index tag for information that is not at a consistent location in the page group.

Resource group files

The IndexAFP command can create a resource group file that contains all the AFP resources that a production AFP file references.

The resource group file lets you print an AFP file on another system where the AFP resources are not present. It also lets you reprint an archived AFP file using the original resources.

For example, suppose that a page segment contains a company officer's signature and is included in the print data. When someone else replaces the officer, current print files must contain the new officer's signature, but archived files must contain the former officer's signature. To print an archived file with the original resources, you use the resource group file.

AFP Editor

AFP Editor lets you create barcodes, text, and hidden areas in documents.

Barcodes and text are used for a variety of purposes, such as routing and tracking mail and adding page numbers to documents. If you hide areas in documents, no one using an AFP viewer sees the data in the area, and the data does not print. AFP Editor also lets you mask sensitive text that you do not want anyone to view or print.

Barcodes

A **barcode** is a pattern of elements (such as bars, spaces, and two-dimensional modules) that represent numeric or alphanumeric information in a machine-readable form.

The way the elements of a barcode are arranged is called the **barcode type**, or **symbology**. AFP Editor lets you create these types of barcodes:

- **Code 39 (3-of-9 Code):** A low-density barcode that can encode uppercase letters, numbers, and some special characters.

- **Data Matrix:** A two-dimensional (2D) barcode that consists of black and white square modules arranged in either a square or rectangular pattern. This barcode uses the Solomon-Reed error correction algorithm (ECC 200) to ensure data reliability.
- **Intelligent Mail:** A 4-state barcode that the United States Postal Service (USPS) defines to track and direct mail. Intelligent Mail barcodes (IMBs) combine the capabilities of POSTNET and PLANET barcodes in one barcode.
- **Interleaved 2-of-5:** A high-density barcode that can encode numbers.
- **Portable Data File 417 (PDF417):** A two-dimensional (2D) barcode that consists of several rows, each of which is like a small linear barcode. The barcode can detect and correct errors.
- **POSTal Numeric Encoding Technique (POSTNET):** A barcode that the USPS defines to direct mail.
- **Quick Response Code (QR Code):** A two-dimensional (2D) matrix barcode that consists of black and white square modules arranged in a square pattern. The contents of this barcode can be decoded at high speed. This barcode uses the Solomon-Reed error correction algorithm (ECC 200) to ensure data reliability.

When you use the AFP Visual Environment user interface to create a barcode in a sample AFP file, you define a **barcode area**. You specify the origin of the area, the size (height and width) of the area, and the location of the area in each page group. The area can be a horizontal rectangle (for a "picket-fence" barcode), a vertical rectangle (for a "ladder" barcode), or a square.

You can place barcodes on:

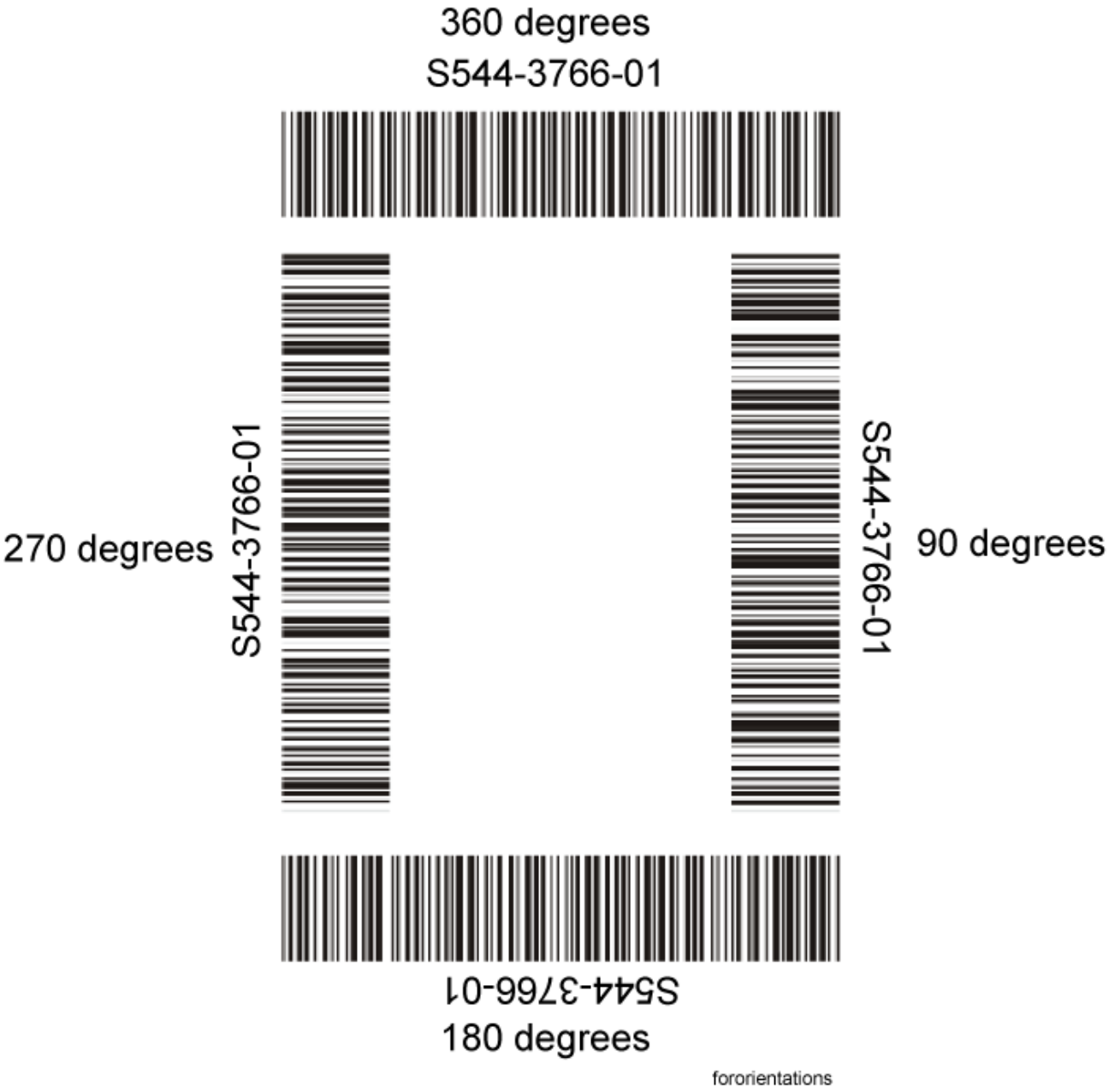
- A specified page (for example, page 1) of each page group
- All pages in each page group
- The even pages in each page group (pages 2, 4, 6,...)
- The odd pages in each page group (pages 1, 3, 5,...)

Note

The barcode that you define in a page group contains the same data on each page.

In addition, you can specify one of these orientations for the barcode symbol within the barcode area: 0 degrees, 90 degrees, 180 degrees, or 270 degrees. Orientations of Barcodes, p. 25 shows the possible orientations for a barcode symbol with the human-readable interpretation (HRI) text placed above the barcode symbol:

Orientations of Barcodes



Code 39, Data Matrix, Interleaved 2-of-5, PDF417, POSTNET, and QR Code barcodes

AFP Editor can create Code 39, Data Matrix, Interleaved 2-of-5, PDF417, POSTNET, and QR Code barcode objects that follow the AFP Bar Code Content Object Architecture (BCOCA). AFP Editor uses the default values for all BCOCA properties and displays the default properties you can change. For information about the default values, see *Bar Code Object Content Architecture Reference*, S544-3766.

Table 1. Bar code properties for Code 39, Data Matrix, Interleaved 2-of-5, PDF417, and POSTNET bar codes

Barcode type	Properties
Code 39 (3 of 9 Code)	• Whether to generate and include a check digit in the bar code symbol; a check digit

	ensures data integrity during the bar coding reading process; • Whether to include human-readable interpretation (HRI).
Data Matrix	• Number of rows; • Number of modules in each row.
QR Code	• Desired Symbol Size
Interleaved 2-of-5	• Whether to generate and include a check digit in the bar code symbol; a check digit ensures data integrity during the bar coding reading process; • Whether to include human-readable interpretation (HRI).
PDF417	• Number of data symbol characters in each row; the printer creates the minimum number of rows necessary for the amount of data in the bar code symbol.
POSTNET	• Length of the routing ZIP Code; • Whether to include human-readable interpretation (HRI).

Specifying Module Width

As an advanced feature, you can specify the module width of a barcode that is written as a BCOCA object. By specifying this property, you can better control the size of the resulting barcode. The module width specifies the width in mils of the smallest defined barcode element (bar, space, or 2D module). For more information, see *Bar Code Object Content Architecture Reference*.

The default value is applied if you leave this option unchanged. The default values for each barcode are as follows:

Barcode type	**Recommended module width default values (in mils)**
Code 39 (3 of 9 Code)	13
Data Matrix	21
QR Code	12
Interleaved 2-of-5	13
PDF417	14

Note

- Valid module width values range between 7 and 254. Values outside this range are ignored.
- AFP Visual Environment does not verify whether the resulting barcode fits the defined object area.
- As specified in the BCOCA reference, the barcode types: POSTNET and Intelligent Mail Barcode have a fixed module width. You cannot specify a module width for them.

Specifying Barcode Data

You can specify this data to encode in the barcode symbol, in any combination, if the data is allowed in the barcode type:

- The value of one or more index tags. (For example, if the routing ZIP Code in an AFP file is an index tag, you can include the ZIP Code in the barcode data.) If the index tag value is different in every page group, the barcode data for the index tag is different in every page group.
- The value of one or more job properties (such as job number). The barcode data for a job property is the same in every page group.
- Text strings. The barcode data for a text string is the same in every page group.
- Human-readable interpretation (HRI).
- Code page encoding.

Note

If you want to include the value of document properties in barcode data, contact the Professional Services department of Ricoh Production Print.

You can also adjust position values for the barcode, including changing the origin and size of the barcode area, selecting the orientation of the barcode symbol, and selecting which pages to place the barcode on.

Intelligent Mail bar codes

AFP Editor can create Intelligent Mail bar codes (IMBs) in one of these representations:

- **BCOCA objects:** Bar code objects follow the Bar Code Content Object Architecture (BCOCA). AFP Editor can create standard height IMB symbols.
- **Text barcodes:** AFP Editor uses the 300 dpi AFP IMB font (US23) that the USPS provides. This barcode font creates standard height IMB symbols.

In general, BCOCA objects are preferred to text barcodes. However, some older printers, such as IBM 3900 printers, cannot process BCOCA IMBs. To print on these printers, you must create text IMBs.

IMBs have two basic formats, depending on the length of the mailer ID assigned by the USPS. Fields in IMBs with a 9-digit mailer ID and a 6-digit serial number, p. 27 and Fields in IMBs with a 6-digit mailer ID and a 9-digit serial number, p. 28 show the formats of IMBs:

- In Fields in IMBs with a 9-digit mailer ID and a 6-digit serial number, p. 27, the mailer ID contains 9 digits and the serial number contains 6 digits.
- In Fields in IMBs with a 6-digit mailer ID and a 9-digit serial number, p. 28, the mailer ID contains 6 digits and the serial number contains 9 digits.

The Mailer ID and the Serial number fields together contain 15 digits.

Fields in IMBs with a 9-digit mailer ID and a 6-digit serial number

1 2	3 4 5	6 7 8 9 10 11 12 13 14	15 16 17 18 19 20	21 22 23 24 25 26 27 28 29 30 31
Bar code ID	Service type ID	Mailer ID	Serial number	Routing ZIP Code

1

Fields in IMBs with a 6-digit mailer ID and a 9-digit serial number

1 2	3 4 5	6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	21 22 23 24 25 26 27 28 29 30 31
Bar code ID	Service type ID	Mailer ID	Serial number	Routing ZIP Code

AFP Editor lets you specify these fields:

Barcode ID

A 2-digit number that identifies Optional Endorsement Line (OEL) information. The USPS defines the barcode IDs. This field is required.

Service type ID

A 3-digit number that identifies the mail class and the postal services. For example, "080" is first-class mail with Address Service requested. The USPS defines the service types and service type IDs. This field is required.

Mailer ID

A 6- or 9-digit number that identifies the mailer. The USPS assigns the mailer ID.

Note

You can use the Mailer ID field for other purposes in an IMB that is used for reply mail.

Serial number

A 6- or 9-digit number that the mailer assigns to identify the mailpiece. If the mailer ID contains 6 digits, the serial number contains 9 digits. If the mailer ID contains 9 digits, the serial number contains 6 digits. This field is required; however, if you use only USPS "Basic Services", the serial number can be zeroes.

Routing ZIP Code

The 5-, 9-, or 11-digit routing ZIP Code of the mail recipient, also called the "Delivery Point Code". This field is not required.

IMB serial numbers

The serial number in an Intelligent Mail barcode (IMB) identifies the mailpiece. If you use the USPS "Full service" option, the serial number must not repeat in another barcode for a 45-day period.

A serial number can consist of 6 or 9 digits, depending on the length of the mailer ID. Because 6 or 9 digits might not be long enough to completely identify a mailpiece (for example: the recipient, the type of mailing, the date of mailing), you can use a sequential number as the serial number and save the serial number in an index tag in the mailpiece or in a separate index file. If the USPS returns electronic Address Change Service (ACS) information, you can then use the serial number to retrieve the actual mailpiece or information about the mailpiece.

AFP Editor lets you specify the serial number in these ways:

- **Index tag:** You can specify an index tag that contains the value to encode as the serial number. The index tag can contain a different value in each page group (mailpiece). For example, if the customer ID is indexed, the serial number can be the customer ID. If the customer ID is shorter than the 6 or 9 digits required for a serial number, AFP Editor automatically adds zeroes to the beginning

of the customer ID. Keep in mind that if you use the USPS "Full service" option, the serial number must not repeat in another barcode for a 45-day period.

- **Serial number file:** For each barcode, you can specify a file that contains the number to use as the serial number in the first IMB in the AFP file. AFP Editor automatically increments the number in the file by 1 in each subsequent barcode that it creates to make the serial number unique. For example, if the serial number file contains a starting serial number of 000000, the serial numbers in the barcodes are 000000, 000001, 0000002, 0000003, and so on.

When AFP Editor creates IMBs in production AFP files:

1. In the first IMB in the AFP file, it encodes the serial number that is in the serial number file.
2. In each subsequent IMB created, it increments the serial number by 1. This ensures that the serial number is unique in each barcode.
3. When the serial number reaches the maximum number of digits specified in the serial number file (6 or 9 digits), the number wraps to 000001 or 000000001.
4. When it finishes creating IMBs in the AFP file, it updates the serial number file so that the file contains the starting serial number for the first IMB in the next AFP file that AFP Editor processes.

For example, if the serial number file contains the 6-digit serial number 000001, and AFP Editor creates four IMBs in two AFP files (each AFP file uses the same serial number file), the barcodes contain these serial numbers:

- First AFP file: 000001, 000002, 000003, and 000004
- Second AFP file: 000005, 000006, 000007, and 000008

AFP Editor can save the actual barcode data that it encoded in each IMB in an index tag. This is especially useful when you use a serial number file because each index tag in the AFP file contains the actual serial number that was encoded in the barcode.

You specify the name of the serial number file when you create an IMB in the sample AFP file. However, you can use a different serial number file for production AFP files. You can specify the name of the serial number file to use in the EditAFP and PluginMgr commands.

Note

The EditAFP command starts multiple threads so that it can process multiple page groups concurrently. Therefore, the serial numbers in the IMBs are not always in sequential order by page group. For example, EditAFP might create the IMB in the third page group (using serial number 000002) before it creates the IMB in the second page group (using serial number 000003). Even though the serial numbers might not be in sequential order by page group, the serial number in each IMB is unique. If it is important for the IMB serial numbers to be in sequential order by page group, request that EditAFP start only one thread (`-threads 1` option), or use the PluginMgr command to run EditAFP. PluginMgr is single-threaded, so IMB serial numbers are always in sequential order by page group.

POSTNET to IMB replacement

Intelligent Mail barcodes (IMBs) can replace both POSTNET and PLANET barcodes, as well as the alphanumeric characters that contain the participant code and keyline information for the USPS Address Change Service (ACS).

AFP Editor provides a replace function that can delete POSTNET barcodes and create IMBs that contain the same routing code as in the replaced POSTNET barcodes (minus the check digit). POSTNET barcodes and IMBs can be text barcodes or BCOCA objects.

The replace function automatically places IMBs in the same position as the POSTNET barcodes they replace. However, you can change the position of the IMBs. For example, if the POSTNET barcode is below the name and address, you can put the IMB above the name and address.

The replace function does not delete any PLANET barcodes or the Address Change Service (ACS) information that typically prints above the name and address. However, you can first use AFP Editor to hide the area that contains the PLANET barcode and any ACS information.

PLANET and POSTNET barcodes, p. 30 shows an address with ACS data, a PLANET barcode, and a POSTNET barcode. POSTNET barcode, p. 30 shows the same address after you create a hidden area to cover the ACS data and the PLANET barcode.

PLANET and POSTNET barcodes

POSTNET barcode

POSTNET barcode, p. 30 shows the address with the POSTNET barcode. IMB replacement, p. 30 shows the address after you replace the POSTNET barcode with an IMB.

POSTNET barcode

IMB replacement

Hidden areas

A hidden area is an area in each page group that no one using an AFP viewer can see and that does not print.

You can hide areas that contain text, barcodes, or other types of optical mark recognition (OMR) data that you want to replace or that are no longer needed. For example, if you want to replace POSTNET and PLANET barcodes with Intelligent Mail barcodes (IMBs), you can hide the PLANET barcodes. (AFP Editor can automatically replace PLANET barcodes with IMBs, but you must hide the PLANET barcodes and any ACS data.)

AFP Editor creates a hidden area by creating an AFP graphics object that contains no data and that prints in the color of the medium or another color. Although you cannot use an AFP viewer to see the existing data in the hidden area, the data still exists in the AFP file.

You can specify the location and size of the hidden area. You can place a hidden area on:

- A specified page (for example, page 1) of each page group
- All pages in each page group
- The even pages in each page group (pages 2, 4, 6,...)
- The odd pages in each page group (pages 1, 3, 5,...)

Text masks

A text mask replaces text in an AFP file with another character, for example the "x" character. Text masks are useful if you do not want anyone to view or print sensitive information, such as customer names and social security numbers.

You can block out, or **mask**, text that is consistently present in the same location in each page group. You define a text mask by selecting a block of text that occurs in a consistent location on every page group in the file; for example, a customer's social security number. You can define multiple text masks so you can mask different information in a page group, such as a customer name, an address, and an account number.

You can use the default character "x" for the mask value or select a different character. The selected text is replaced in the AFP file. For example, when you use an AFP viewer, instead of displaying social security number "213-87-2967", the text mask "xxxxxxxxxx" is displayed. When you print the AFP file, instead of printing the social security number, the text mask prints.

Tip: To make sensitive data completely inaccessible, mask the text instead of hiding the area that contains the data. When you mask text data, the original data is no longer in the AFP file. However, when you hide an area, the original data remains in the AFP file. In both cases, an AFP viewer does not display the data and the data does not print.

Whitespace Manager

With Whitespace Manager, you can add marketing or educational messages to documents without recomposing them. Whitespace Manager lets you define available areas of white space in AFP files and then fill the white space with content, such as images and text, during the print production process.

The content that is placed in a white space area is based on rules you define to target the content for specific customers or for the best use of available space.

White space

White space is the area on a page that does not contain any text. You can define white space in AFP files by choosing known white space on a page or by searching for the first available white space in a page group.

When Whitespace Manager searches for white space on a page, it looks on the logical page for areas without text blocks. Areas with overlays, page segments, barcodes, and images are considered available white space.

When you create a white space definition, you use these options to select the pages in the page group where you want the white space defined:

- **This page**
- **This and following pages**
- **Last page**

For known white space definitions, you can create one area of known white space for each page in a page group using **This page** or **Last page**. This equates to a total of *n* definitions, where *n* is the number of pages in a page group. For white space definitions from a search, you can create one area of white space for each page in a page group using **This page**, one area of white space using **This and following pages**, and one area of white space using **Last page**. This equates to a total of *n* + 2 definitions. Therefore, the maximum number of white space definitions that Whitespace Manager lets you create is:

```
2n + 2
```

For example, if a page group has three pages, you can create 3 definitions for known white space and 3 + 2 definitions for white space definitions from a search. Therefore, the maximum number of white space definitions allowed is:

```
(2 x 3) + 2 = 8
```

If you try to create more than the allowed number of white space definitions on a page, you see the message "No more white space definitions are allowed for this page."

When you create a white space definition, you also choose the origin and size of the area for the white space. If you are searching for available white space on a page, you decide on a minimum width and height for the white space area that you want Whitespace Manager to look for (at least 0.5 inches or 12.7 millimeters). Whitespace Manager searches for the largest white space area on a page that meets the minimum dimensions specified. When Whitespace Manager finds white space that meets the specifications on that page, it stops the search.

White space definition results, p. 32 shows how Whitespace Manager creates white space definitions based on the page options that you select.

White space definition results

White space definition	Page option	Result
Known white space	This page	Whitespace Manager creates a white space definition on the current page of the page group and displays the white space as a colored box. If a white space definition was previously found on the page from a search, the known white space definition takes precedence and is displayed in the user interface. This option is only available if a known white space area has not been defined on the current page.

White space definition	Page option	Result
	Last page	Whitespace Manager creates a white space definition on the last page of the page group and displays the white space as a colored box. If a white space definition was previously found on the page from a search, the known white space definition takes precedence and is displayed in the user interface. You might want to create a **Last page** definition instead of **This page** when the page groups contain a variable number of pages and you want the white space to always be on the last page. This option is only available if the current page is the last page in the page group and a known white space area has not been defined on the page.
White space from a search	This page	Whitespace Manager creates a white space definition on the current page of the page group and displays the white space as a colored box unless: • A known white space area is already defined on the page. • No white space area meets the specified dimensions. This option is only available if white space from a search has not already been defined using **This page**.
	This and following pages	Whitespace Manager searches the current page and all pages that follow in the page group, creates a definition on the first page where it finds white space, and then displays the white space as a colored box. It does not display a white space box if: • A known white space area is already defined on a page. • No white space area meets the specified dimensions. **Notes:** 1. This option is only available if white space from a search has not already been defined using **This and following pages**. 2. You must display each page in the page group to see if a white space box is created on a page.

White space definition	Page option	Result
	Last page	Whitespace Manager creates a white space definition on the last page of the page group and then displays the white space as a colored box unless: • A known white space area is already defined on the page. • No white space area meets the specified dimensions. You might want to create a **Last page** definition instead of **This page** when the page groups contain a variable number of pages and you want the white space to always be on the last page. This option is only available if the current page is the last page in the page group and if white space from a search has not already been defined using **Last page**.

Keep in mind that not all the white space definitions that you create are displayed in the user interface because Whitespace Manager follows these rules for determining which white space definition is displayed on a page:

- Only one white space definition is displayed per page.
- A known white space definition is displayed before white space that was defined from a search.

If you delete a known white space definition, white space defined from a search can be displayed on a page.

Content

Content, such as images or text, is assigned to a white space area based on rules you define to place the content for specific customers, marketing campaigns, or the best use of available space.

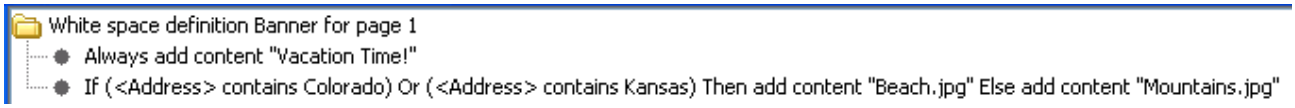
The Manage Campaigns window lets you determine what content is placed in defined white space by defining rules with **conditions**. Conditions are expressions that are used to evaluate whether index tags in a page group are true or false. You can use AFP Indexer to create index tags. In addition to text, these types of images can be displayed as content:

- GIF
- JPEG
- Page segment (PSEG)

Images must use an RGB colorspace; they cannot use a CMYK colorspace. You cannot include other image types, such as TIFF or PNG.

You decide what content is placed in a defined white space (text, image, or both) and then decide whether the content is always placed or placed according to rules that you create. The rules are a string of conditions separated by "and" or "or" operators. If the condition is "true", you can specify that one type of content is assigned to the white space. If the condition is "false", you can specify that another type of content is assigned or no content is assigned.

You can also change the font and position of text and the position of images. When you define an image, you can enter the location of the file where the image resides. Then, if you need to periodically change the image placed in the white space, you can change the image in the file instead of changing the content definition.
For example, you have defined white space across the top of the first page of a statement. You want the text "Vacation Time!" always displayed in the white space, a sunny beach scene displayed to all customers in Colorado and Kansas, and an image of a snow-capped mountain scene displayed to all other customers. If an index tag named "Address" contains the state where the customer lives, the conditions you create would look like this:



Pipeline Manager

Pipeline Manager mode of AFP Visual Environment lets you configure and run a set of filters, in a specific order, to process large AFP files quickly and efficiently.

The AFP Indexer, AFP Editor, and Whitespace Manager components have filters. By using the filters for components, you can pre-process your AFP files. For example, you can generate page groups and indexes, add bar codes, and write the resulting AFP file, all in 1 process. The input AFP is read once, and the output AFP is written once.

Standard filters

AFP Visual Environment contains these standard filters:

1. Count Objects

Counts the number of AFP Objects in the file. Select Object Identifier from the list. The value is returned to the console output.

Parameters:

Object Identifier

Mandatory parameter. You must select one object type from the Supported Objects, p. 38 table.

2. Count Structure fields

Counts the number of AFP structure fields in the file. Select Structure field Identifier from the list. The value is returned to the console output.

Parameters:

Structure field Identifier

Mandatory parameter. You must select one structure field type from the Supported structure fields , p. 39 table.

3. Create Document Index File

Creates an AFP Document Index File. The output file is offset based. This filter should go at the end of the filter chain list.

Parameters:

Document Index file name

Mandatory parameter. Save location of the output document index.

Form Definition file name

Optional parameter. Path to an input form definition.

4. Create External Resource Group

Creates and External Resource Group from the in-line resource group and external resource directories. It requires a fully qualified Resource Group file name. It also allows you to specify an optional external resource directory and form definition file name.

Parameters:

Resource group file name

Mandatory parameter. Path to the output resource group.

External resource directory

Optional parameter. Path to an external resource directory.

Form Definition file name

Optional parameter. Path to an input form definition.

Additional External resource directory

Optional parameter. Can be added using the **Create another instance of this parameter** button.

Note

It extracts only form definitions, code-pages character sets, and coded fonts. Other resource types (for example: overlay, page segments) are not included.

5. Create Page Sheet Map

Creates an ACIF style Page or Sheet map. It requires a Page or Sheet Map file name. It also allows you to specify an optional form definition file name. An error message is displayed if the specified form definition is not found.

Parameters:

Page sheet map file name

Mandatory parameter. Path to the output.

Form Definition file name

Optional parameter. Path to an input form definition.

6. Cut AFP Objects

Removes AFP Objects from the file. Select the Object Identifier from the list. It allows you to specify an optional Object name with matching parameters.

Parameters:

Object Identifier

Mandatory parameter. You must select one object type from the Supported Objects, p. 38 table.

Object Name

Optional parameter. If we want to delete only with the specified object name.

Note

- An asterisk (*) in front specifies "ends with".
- An asterisk (*) in at the end specifies "starts with".
- An asterisk (*) on both sides specifies "contains".

Range

Optional parameter. You can use it to specify how many elements we should cut. This parameter is in the form of "first:last" where the first value starts at zero (0). An 'e' stands for "end". For example, 0:7 means the first eight objects. 0:e means from the beginning to the end of the file.

7. Cut AFP Structured Fields

Removes AFP Structure fields from the file. Select a type structure field from the list that should be removed. You can specify how many using the Range option.

Parameters:

Structure field Identifier

Mandatory parameter. You must select one structure field type from the Supported structure fields , p. 39 table.

Range

Optional parameter. You can use it to specify how many elements should be cut. This parameter is in the form of "first:last" where the first value starts at zero (0). An 'e' stands for "end". For example, 0:7 means the first eight objects. 0:e means from the beginning to the end of the file.

8. Ensure Even Number Pages in Page Group

Adds a blank page to groups with odd number of pages. Does not require any parameters.

9. In-Line Resource

Adds resources to the in-line resource group. You must supply the fully qualified resource file name and the actual resource name itself.

Parameters:

Resource file name

Mandatory parameter. Name and path of the resource on the disk.

Resource name

Mandatory parameter. Name of the resource that should be written in AFP.

10. Remove Incomplete Pages

Removes incomplete pages, where a new page begins before the previous one is ended.

11. Remove Page Groups

Removes all Page Groups and Page Group TLEs, but not any other data within the Page Group. There is also an optional Range parameter.

Parameters:

Range

Optional parameter. You can use it to specify how many elements should be cut. This parameter is in the form of "first:last" where the first value starts at zero (0). An 'e' stands for "end". For example, 0:7 means the first eight objects. 0:e means from the beginning to the end of the file.

12. Validate AFP Structured Fields

Validates the order and context of structured fields. Missing Begin Document (BDT) and End Document (EDT) Structured Fields are allowed.

Parameters:

Exit on Error

Optional parameter. The customer can specify with a Boolean input parameter whether the validation should stop after the first error occurs or continue until the end.

13. Write AFP Structured Fields

Dumps AFP Structured Field information. Information can be written to an external file. You can also write the output in Hexadecimal format with the optional Show Hex selection.

Parameters:

Output file name

Optional parameter. The name and path of the output file.

Show Hex values

Optional parameter. Use the Boolean values to show or hide the hexadecimal values of the AFP structure fields.

Supported Objects

This table contains the list of all supported objects when using the filters.

AFP Object	ActiveEnvironmentGroup
BarCode	CharacterSet

CodePage	CodePage
Document	DocumentEnvironmentGroup
DocumentIndex	FormEnvironmentGroup
FormMap	Graphics
Image	IOCA
MediumMap	MediumOverlay
ObjectContainer	ObjectEnvirmentGroup
Page	PageGroup
PageSegment	Resource
ResourceEnvirmentGroup	ResourceGroup
Text	

Supported structure fields

This table contains the list of all supported structure fields.

BAG	BBC	BCF	BCP
BDA	BDD	BDG	BDI
BDM	BDT	BFG	BFM
BFN	BGR	BII	BIM
BMG	BMM	BMO	BNG
BOC	BOG	BPF	BPG
BPM	BPS	BPT	BR
BRG	BSG	BTS	CDD
CFC	CFI	CPC	CPD
CPI	CTC	CTD	EAG
EBC	ECF	ECP	EDG
EDI	EDM	EDT	EFG
EFM	EFN	EGR	EII
EIM	EMG	EMM	EMO
ENG	EOC	EOF	EOG
EPF	EPG	EPM	EPS
EPT	ER	ERG	ESG
ETS	FGD	FNC	FND
FNG	FNI	FNM	FNN

FNO	FNP	GAD	GDD
ICP	IDD	IEL	IID
IMM	IOB	IOC	IPD
IPG	IPO	IPS	IRD
LLE	MBC	MCC	MCD
MCF1	MCF2	MDD	MDR
MFC	MGO	MIO	MMC
MMO	MMT	MPG	MPO
MPS	MSU	NOP	OBD
OBP	OCD	PEC	PFC
PGD	PGP1	PGP2	PMC
PPO	PTD	PTX	TLE

2. Installing AFP Visual Environment

- **Installing AFP Visual Environment using the installer**
- **Installing a Permanent License**
- **Revoking the License Key**

Installing AFP Visual Environment using the installer

The AFP Visual Environment can now be installed using an executable jar file `AVEInstaller_X.X.jar`.

To run the installer, perform these steps:

- Use the following command: `java -jar AVEInstaller_x.x.jar`, where *x.x* is the product version; for example, `java -jar AVEInstaller_1.4.jar` for the 1.4 version of AFP Visual Environment.

  Note

  – To install the AFP Visual Environment, you need 64 bit Java 1.8 or later and Administrative rights.

  – On some Java versions, due to a bug, the above `java -jar` command might not start the installer. Use this additional parameter: `java -Djdk.util.zip.disableZip64ExtraFieldValidation=true -jar AVEInstaller_x.x.jar`.

- Depending on the capabilities of your operating system, the AFP Visual Environment installer opens either using a graphical user interface or a command line.
- On non-Windows operating environments the installer uses the `/tmp` directory to unpack files and run certain scripts. If there are limitations on the `/tmp` folder of the system, such as non-exec flag or limited space, a different temporary file directory can be specified using the `-Dlax.nl.env.iatempdir=` parameter. Example: `java -Dlax.nl.env.iatempdir=/custom_temp_dir/ -jar setupaAVE_1.400.00.jar`.
- Follow the installation steps of the installer. You will be asked to install the AFP Visual Environment user interface or the AFP Visual Environment commands. During the installation process, you must specify the installation location.

Note

If you install AFP Visual Environment on Windows in the Program Files folder of the computer, you must run the program with Administrator rights.

Installing a Permanent License

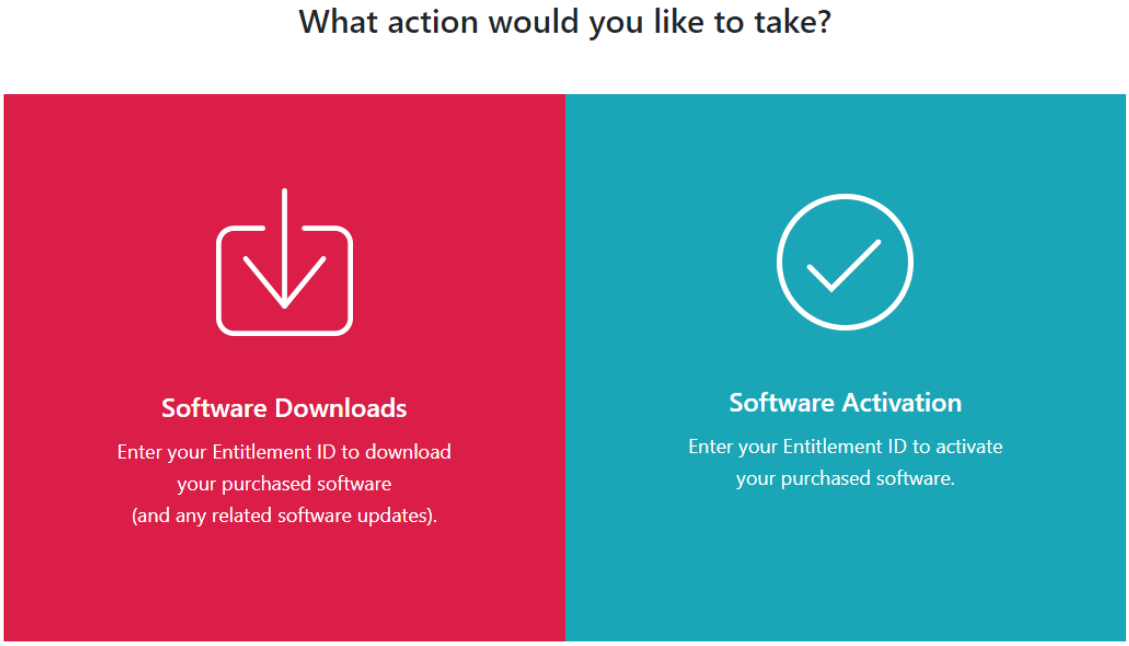
To use AFP Visual Environment, you must install a permanent license on the computer where the product is installed. The permanent license is valid only on this computer.

To install a permanent license for AFP Visual Environment:

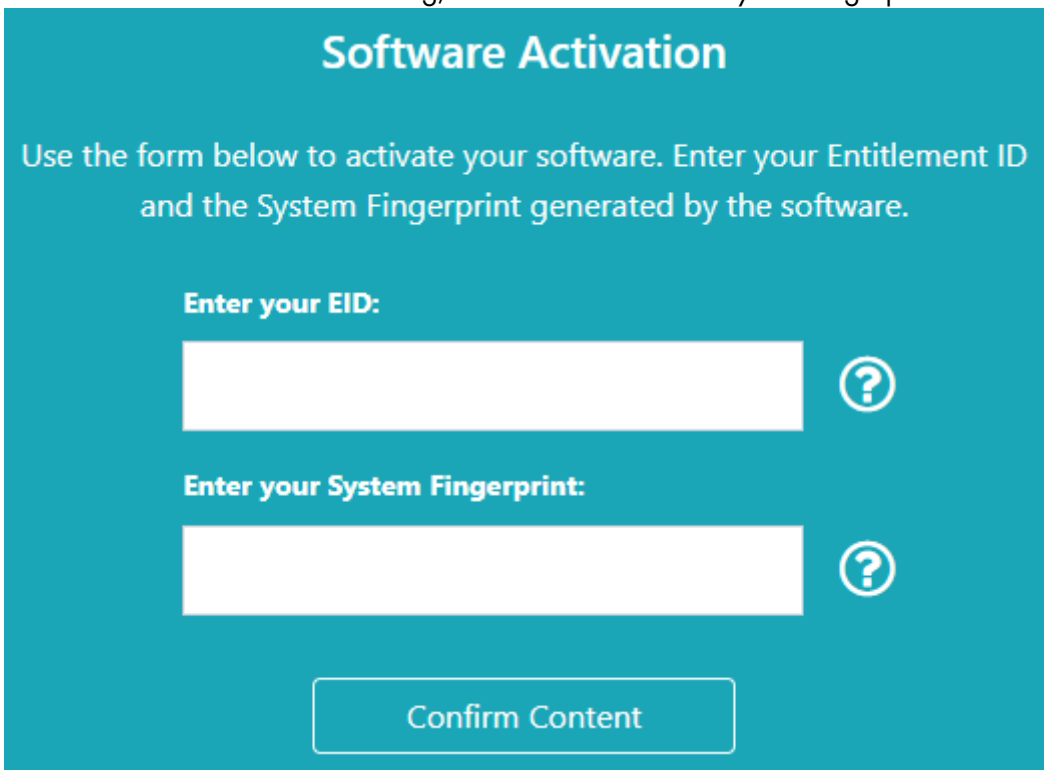
1. Make sure that you have the e-mail containing the entitlement ID (EID) that you received from Ricoh.
2. If the computer where AFP Visual Environment is installed does not have Internet access:
   1. Do not close the license application on the computer where AFP Visual Environment is installed.
   2. Log into a computer that has Internet access.

3. Use the Remote Desktop Connection to connect to the computer where AFP Visual Environment is installed.
4. Log in with the same user name and password that you used when you started the license application.

3. On the computer that has Internet access, go to this website: https://dl.ricohsoftware.com.



4. Click **Software Activation** on the right side of the screen.
5. In the **Software Activation** dialog, insert the EID and the system fingerprint.

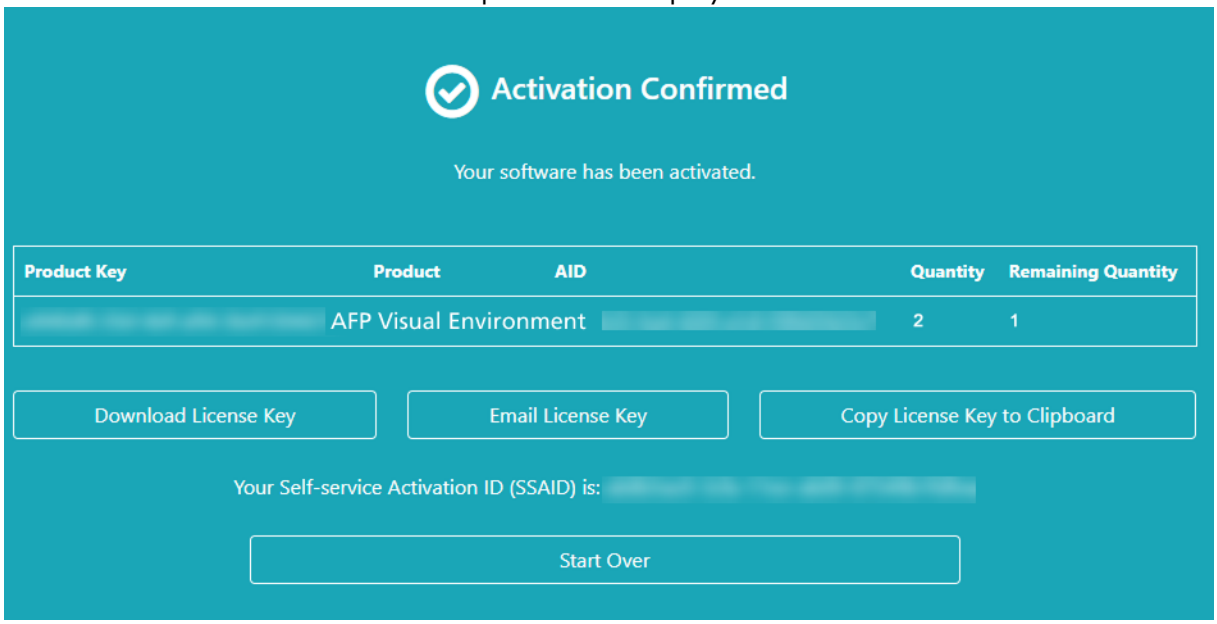


1. Copy and paste the EID from the e-mail you received from Ricoh.
2. On the **Software Activation** page, enter your EID and system fingerprint.

   To get your system fingerprint, go to **Help** → **License manager** → **License info/ deployment**. Your system fingerprint is displayed on the panel.
3. Click **Confirm Content**.

6. In the **Activation Content Confirmation** dialog:
   1. Review the confirmation information.
   2. Click **Activate**.

   You will receive a confirmation that your software has been activated. A license key is generated with an Activation ID for the client computer and is displayed on the screen.

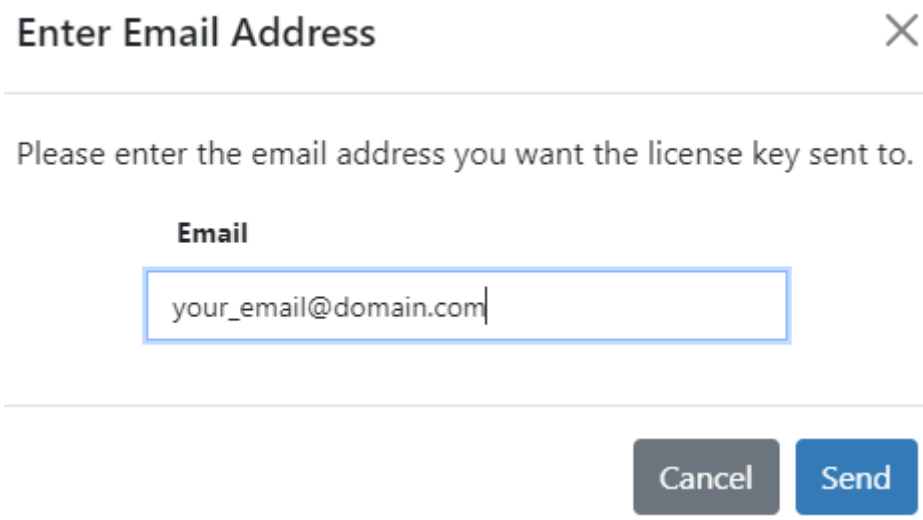


Note

The number of activations of the license is displayed under **Quantity**. The remaining number of activations available for this license is displayed under **Remaining Quantity**.

7. To download the license key, click **Download License Key**. The saving procedure and file type are different for each browser. Record the folder where you saved the license key.

8. To email the license key file to someone else, click **Email License Key**.



   1. Type the e-mail address.
   2. Click **Send**.
9. If you are finished, close the browser tab. To restart the process, click **Start Over**.
10. If you accessed the Internet from a different computer than the one where AFP Visual Environment is installed, copy the license file to the computer where AFP Visual Environment is installed.
11. Access your AFP Visual Environment application, click **Help** → **License manager** → **License info/deployment** → **Install license** and select your license. Then, click **OK**.

Revoking the License Key

The Self-service License Key Revoke System (SSR) is designed to permit Ricoh customers a method to move license keys between systems and recover from system failures. If you must revoke more than 2 keys from the same EID, contact your local Ricoh Support team for assistance.

To revoke the license key:

1. Go to https://dl.ricohsoftware.com/.
2. Click the **Self-Service Revoke** button.
3. Select one of the 3 available revoke methods from the **Revoke By** list:

   Entitlement ID (EID)

   The EID that you must revoke for the software reporting a license violation condition.

   Activation ID (AID)

   The AID is necessary when you only must revoke a single set of keys for 1 EID. For example, if you accidentally activated using the wrong system fingerprint and have the AID string available.

   License Key File Upload (license.key file)

   Best general-purpose option for resetting all EIDs installed for a specific product on a given server. You can select a **license.key** file.

4. Depending on your selection from the **Revoke By** list, enter the EID, AID, or upload the key file in the **Enter your EID**, **Enter your AID**, or **Upload Your License File (Max file size, 150 KB)** fields.
5. Enter your company name in the **Company Name** field. Make sure to use the same the company name used in the original EID email.
6. To receive the revoke details, enter your valid business email address in the **Business Email Address** field.
7. Click **Submit**.

After 30 seconds, you receive a notification on the website. If your request could not be approved automatically and requires review, you receive an email from the reviewer within the next few business days.

Note

- Depending on the network speed or processing time, it may last up to 90 seconds until you receive the notification.

You can also revoke your license directly from AFP Visual Environment following these steps:

1. Access your AFP Visual Environment application, click **Help** → **License manager** → **Revoke license** → **Revoke**.
2. Select the location that you want to use for your current license, then click **Open**.
3. You are instructed to visit https://dl.ricohsoftware.com/?revoke to revoke your license.
4. Click **Exit**.

3. Working with sample AFP files

- **Converting line data to MO:DCA-P in sample AFP files**
- **Displaying sample AFP files**
- **Creating and updating control files**
- **Identifying AFP resource directories**
- **Mapping fonts for AFP files**
- **Enabling object selection in sample AFP files**
- **Showing page information in sample AFP files**
- **Specifying a form definition**
- **Checking enhancements to sample AFP files**
- **Configuring and running a set of filters**

You can use AFP Visual Environment to enhance a sample AFP file.

The sample AFP file should be representative of production AFP files. You can then run an AFP Visual Environment command to make the same enhancements to production AFP files.

To enhance a sample AFP file, first you convert any line data to Mixed Object Document Content Architecture for Presentation (MO:DCA-P) format. Then you start the user interface and open the sample AFP file. You can choose to create a new AFP Visual Environment control file or update an existing control file. If necessary, you must specify the AFP resource directories to AFP Visual Environment, and create custom font-mapping files.

Converting line data to MO:DCA-P in sample AFP files

If the sample AFP file contains line data, you must convert the data stream to Mixed Object Document Content Architecture for Presentation (MO:DCA-P) format.

If the sample AFP file is on a z/OS system, you must then send the AFP file and any AFP resources that are not inline to the preparation system.

To convert line data to MO:DCA-P data in a sample AFP file:

1. Use the AFP Conversion and Indexing Facility (ACIF) program to convert the data stream to MO:DCA-P format. As an option, request that ACIF create a resource group file that contains the AFP resources that the file references.
2. If the sample AFP file is on another system, use the File Transfer Protocol (**ftp**) on the preparation system to get the AFP file and the ACIF resource group file. Use the **ftp** binary option.
3. Concatenate the resource group file and the AFP file that ACIF created.

Displaying sample AFP files

You can open a sample AFP file in AFP Visual Environment. The sample AFP file must be representative of production AFP files that you want to enhance in the same way as the sample file.

For example, if the AFP file contains text that you want to use in an index tag or in barcode data, choose a sample file that contains that text in the same position on the page as the production AFP files.

You can open one AFP file in AFP Visual Environment at a time. If an AFP file is already open, AFP Visual Environment automatically closes it and prompts you to save its control file if you have not already done so. After you open an AFP file, you can rotate the view, display selected pages, display different views, and increase the display size.

You can display the properties of page groups, pages, text, and AFP objects (such as page segments and overlays) in the AFP file. Page-group properties include the index tag values. Page properties include the type of AFP objects that are on the page, including page-level indexes. Text properties include font information and the location (in inches or millimeters) of the text.

Note

- If some text does not display correctly, you might need to identify the directory that contains the font resources to AFP Visual Environment, or you might need to modify AFP Visual Environment font mapping.

To display a sample AFP file:

1. Click **File** → **Open AFP file**. You see the Open window.
2. Select the AFP file that you want to open and click **Open**.
   You see the AFP file in the right pane of the user interface. You also see the Open Control File window with the message: `Do you want to use an existing control file for this AFP file?`
3. Do one of these:
   - To create a control file, click **No**. If the AFP file contains index tags, you see the index tags in the bottom pane; otherwise, the bottom pane is blank.
   - To display the file using an existing control file, click **Yes**. This is recommended if you have previously created a control file for this sample AFP file. You see the Open window:
     1. Select the control file that you want to use.
     2. Click **Open**. If the control file contains definitions for index tags, or if the AFP file contains index tags, you see the index tags in the bottom pane; otherwise, the bottom pane is blank.

   To the left of the AFP file, you see the page structure of the file, which can contain page groups and pages. You might also see a resource group entry at the top of the page structure if the file contains inline AFP resources, such as overlays and page segments.
4. To rotate the AFP file clockwise by 90 degrees, click **View** → **Rotate by 90°**. Click again to rotate another 90 degrees.
5. To navigate in the AFP file, do one of these:
   - Click anywhere in the AFP file and press the Page Up or Page Down key on your keyboard.
   - Double-click to select a page from the left pane.
   - Double-click to select a page group from the bottom pane.
6. To hide or display the page structure in the left pane, click **View** → **File View**.
7. To hide or display the indexes in the bottom pane, click **View** → **Index View**.
8. To increase or decrease the display size of the AFP file, click **View** → **Zoom** → ***nnn*** (*nnn* is one of these percentages: 200, 175, 150, 125, 100, 75, 50.)
   The display size of the AFP file is increased or decreased by the percentage you select.
9. To change units of measurement, do one of these:
   - For inches, click **View** → **Units** → **Inches**.
   - For millimeters, click **View** → **Units** → **Millimeters**.

10. To display properties:
    1. Do one of these:
       - In the left pane, click a resource, page group, or page. Right-click and click **Properties**.
       - Click **Mode** and a feature. Then:
         1) Click text or an object in the AFP file. You see a red box around the text or object you selected.

            Note

            – If you cannot select an object, it is not enabled for selection. See Enabling object selection in sample AFP files, p. 57.
         2) Right-click and then click **Properties**.

       A green box around a property value indicates that there is more text than what is displayed.
    2. To see the complete text for a value:
       1) Double-click the green box.
       2) Click **OK**.
    3. To close the Properties window, click **X** in the upper right corner.
11. If text does not display correctly:
    - If the AFP file contains data that displays incorrectly, change the default code page to another code page (**Resources** → **Modify Default Encoding**). For example, an ASCII code page is **IBM850(GID=850)** and an EBCDIC code page is **IBM500(GID=500)**.
    - If the AFP file refers to AFP fonts that are not inline, identify the directories that contain font resources to AFP Visual Environment (**Resources** → **Specify Resource Directories**).
    - If the AFP file refers to custom AFP fonts, create custom font-mappings in AFP Visual Environment.
12. If an error occurs when opening or working with a file, click **File** → **Reset**, which closes the file and clears the cached resources from memory. Open the file again.

Creating and updating control files

When you open a sample AFP file to enhance it, AFP Visual Environment can either create a control file or update a control file that you created previously. The control file contains definitions that tell how to enhance production AFP files that are similar to the sample AFP file.

If a control file already exists for a sample AFP file and you need to enhance the AFP file again, update the existing control file instead of creating a new control file. All the definitions that apply to the sample AFP file must be in the same control file.

To create or update a AFP Visual Environment control file:

1. In AFP Visual Environment, open a sample AFP file.
   You see the Open Control File window with the message "Do you want to use an existing control file for this AFP file?"
2. Do one of these:
   - To create a control file, click **No**.

- To update a control file, click **Yes**. You see the Open window:
  1. Select the control file.
  2. Click **Open**.

3. If you opened the wrong control file, click **File** → **Open Control File** and select the correct control file.

   If you see message "Your unsaved changes will be lost if you open a new control file. Do you want to continue? ", it means that you have already enhanced the AFP file in this session and you will lose those changes. Do one of these:

   - To open another control file, click **Yes**.
   - To save the open control file first so that you do not lose the definitions you created in this session, click **No**. Then save the control file.

4. Enhance the sample AFP file.

   For example, create page groups, index tags, bar codes, text, and white space.

5. Do one of these:

   - To save a new control file or to rename an updated control file:
     1. Click **File** → **Save control file as**.
     2. Type the full path name of the control file in the **File name** field.
     3. Click **Save**.

     Use a name for the control file that helps you associate the AFP file with its control file. The default extension for control files is `.ctl`.
   - To save an updated control file with the same name, click **File** → **Save control file**.

Identifying AFP resource directories

If the sample AFP file refers to AFP resources (fonts, page segments, and overlays) that are not located inline, identify the resource directories that contain the resources so that AFP Visual Environment can display the sample AFP file correctly.

You can specify as many resource directories to AFP Visual Environment as necessary.

Note

- If you plan to create text Intelligent Mail bar codes (IMBs), which refer to an IMB font, identify the resource directory that contains the AFP IMB font to AFP Visual Environment so that AFP Visual Environment can display the bar code symbol. The AFP IMB font (character set C0XMUS23) is installed in the resources directory. If you plan to create BCOCA IMBs, this is not necessary.

AFP Visual Environment looks for AFP fonts, page segments, and overlays in these resource directories, in the order shown:

1. Inline in the AFP file
2. Resource directories specified to AFP Visual Environment, in the order the directories are specified

If you have mapped an AFP font to a Java font in a customized font-mapping file, AFP Visual Environment does not look for the AFP font inline or in the resource directories. It uses the Java font.

The resource directories that you specify are used until you specify different resource directories. However, when you open an AFP file again using an existing control file, AFP Visual Environment uses the resource directories that you had specified, if any, the last time you worked with that AFP file using the same control file.

To identify AFP resource directories:

1. In AFP Visual Environment, open a sample AFP file. Then click **Resources** → **Specify Resource Directories**.
2. Click **Add**.
3. Type a directory name in the **Directory name** field, or click **Browse** to select a directory.
4. Click **OK**.
5. To specify another resource directory, click **Add** again.
6. To change the order of a directory in the list, select the directory and click **Up** or **Down**.

   The directories are searched in the order they are listed.
7. Click **OK**.

Mapping fonts for AFP files

If AFP Visual Environment does not display a custom AFP font correctly in the sample AFP file, you can map the font to a comparable Java font of the same point size and style, and you can change how particular code points map to Unicode code points.

You can also change the default code page that AFP Visual Environment uses to another encoding.

When you are creating or editing index tags and you cannot read the text, you can change the code page mapping so the index value is readable. When you want to change the way the text is displayed in AFP Visual Environment, you can change the character set mapping.

AFP font mappings can be located in multiple places. AFP Visual Environment looks for font mappings in this order:

1. Job font mappings in the AFP Visual Environment control file
2. Installation font mappings in font-mapping files
3. System font mappings

You cannot change system font mappings, but you can create job font mappings for an AFP file that are saved in the control file, and you can edit installation font mappings in one or more of these font-mapping files that are shipped with AFP Visual Environment:

- **CharacterSets.properties:** Maps an AFP character set to corresponding font attributes or a AFP font global identifier (FGID) to a corresponding Java font name and style.
- **CodedFonts.properties:** Maps an AFP coded font to an AFP character set and AFP code page.
- **CodePages.properties:** Maps an AFP code page or a Java charset encoding to an AFP code page global identifier (CPGID).
- **SampleCodePointMap.cp:** Maps a code point to a Unicode code point. Use this file to create a code point map file for each AFP code page that does not use standard Unicode code-point mapping. The name of the file must contain the name of the AFP code page.

You can change the default Java font that AFP Visual Environment uses by defining the font in the control file or in the font-mapping files. The default Java font, unless you change it, is an 11-point font with an EBCDIC code page.

Using font-mapping files to map fonts

To map a custom AFP font to a Java font, edit one or more of the sample font-mapping files that AFP Visual Environment provides.

The mappings in the font-mapping files are used to display all AFP files in AFP Visual Environment unless an AFP font is mapped to a Java font in the AFP Visual Environment control file.

Note

The font-mapping files must exist on both the preparation system and the production system.

To use font-mapping files to map an AFP font to a Java font:

1. Navigate to the directory where you installed AFP Visual Environment.
2. Open the sample font-mapping files in a file editor, edit them, and save them.

   All font-mapping files that you want to use must be in the same directory.
3. If you edited sample file `SampleCodePointMap.cp`, rename it to the name of the AFP code page.

   For example, if the name of the code page is T1000259, name the file `T1000259.cp`.

Creating font mappings from text blocks

When AFP Visual Environment cannot display text in an AFP file correctly, you can use text blocks in the file to create font mappings.

The font mapping can be for a character set, code page, or coded font. You can map an AFP character set to a Java font, an AFP code page to a Java character set, or an AFP coded font to an AFP character set and AFP code page.

Note

Code page mappings make text readable, while character set mappings change how text is displayed in AFP Visual Environment.

To create a font mapping from a text block:

1. In AFP Visual Environment, open a sample AFP file.
2. Click **Mode** and a feature.
3. Click a text block.
   You see a red box around the text you selected.

   The text blocks you can select are defined in the AFP file, from one character to the entire line of text. For example, the text “Account Summary” might be defined as two text blocks. You can click either the “Account” or “Summary” text block.

4. Right-click anywhere on the page and click **Create Font Mapping**.
   You see the Create Font Mapping window.
5. Click one of these for the font mapping type:
   - **Character Set** (default)
   - **Coded Font** (only available if the text block references a coded font)
   - **Code Page**

   The fields and buttons on the window change depending on which font mapping type you select. Font mapping fields and buttons, p. 53 describes the fields and buttons that are displayed for font mapping.

Font mapping fields and buttons

Field or button	Font Mapping Type	Description
Add	Character Set	The action for adding a new global identifier to the drop-down list for the character set.

Character Set Name	`Character Set`
	`Code Page`
	`Coded Font`
		Identifies one of these:
		• The name of a defined set of characters for AFP. The name usually begins with "C". The second character in standard AFP character set names indicates the character rotation. A question mark (**?**) is used as a wildcard character for the second character of the character set name and means that the identifier applies to all rotations.
		Note
		`DEFAULT` is used for the identifier of the AFP character set when AFP Visual Environment cannot locate the resource for a coded font.
		• The name of a defined Java character set encoding.

Coded Font Name	Coded Font	The name of the AFP coded font that associates an AFP code page and an AFP character set. For double-byte fonts, a coded font associates

Field or button	Font Mapping Type	Description
		multiple pairs of code pages and font character sets.
Code Page Name	`Code Page Coded Font`	The name of the AFP code page that assigns code points to graphic characters. The name usually begins with "T1". **Note** `DEFAULT` is used for the identifier of the AFP code page when AFP Visual Environment cannot locate the resource for a coded font.
DBCS	Code Page	The code page is a double-byte character set in which each character is represented by two bytes. You cannot change this field.
Text Example	`Character Set Code Page`	The text block you selected in the AFP file.
Family Name	Character Set	The name of the Java font family.
Global Identifier	`Character Set Code Page`	A 1- to 5-digit decimal global character set graphic identifier (GCSGID) or code page global identifier (CPGID). The values are 00001 to 65534.
Point Size	Character Set	The height of the characters in a font. One tenth of the value is the point size. For example, a value of 90 represents a 9-point font. Valid values are whole numbers from 1 to 990.
SBCS	Code Page	The code page is a single-byte character set in which each character is represented by a 1-byte code point. You cannot change this field.
Show CharSets	Character Set	The action for viewing which character sets currently use the global identifier displayed in the Global Identifier field.

Field or button	Font Mapping Type	Description
Show Common	`Character Set` `Code Page`	The action for viewing which character sets or code pages currently use the global identifier displayed in the Global Identifier field.
Style	Character Set	The style of the Java font. Valid values are: `BOLD`, `BOLD|ITALIC`, `ITALIC`, and `PLAIN`.

6. Do one of these, depending on which font mapping type you selected:
   - For **Character Set**, do one of these:
     - Select a different global identifier from the drop-down list. You can click **Show Common** to view which character sets currently use the selected global identifier and then click **X** in the upper right corner to close the window.
     - Click **Add** to create a new global identifier:
       1. Type a 1- to 5- digit identifer in the **Global Identifier** field.
       2. Click **Show CharSets** to view which character sets currently use the selected global identifier. Click **X** in the upper right corner to close the window.
       3. Type a point size.
       4. Select a family name and style for the Java font from the drop-down lists.
       5. Click **OK**.

     The family name and style for the Java font are updated. The example of the text block you selected in the AFP file is also updated.
   - For **Coded Font**:
     1. Type an AFP character set name. The name usually begins with "C".
     2. Type an AFP code page name. The name usually begins with "T1".
   - For **Code Page**:
     1. Select a different global identifier from the drop-down list.
     2. Click **Show Common** to view which code pages currently use the selected global identifier. Click **X** in the upper right corner to close the window.

     The Java character set name is updated. The example of the text block you selected in the AFP file is also updated.
7. Click **OK**.
   The font mapping is created in the control file. To keep the font mappings, be sure to save the control file before exiting the AFP file.

Modifying font mappings from text blocks

After you create character set, coded font, or code page mappings from text blocks in an AFP file, you can modify or delete the font mappings.

To modify or delete a font mapping:

1. In AFP Visual Environment, open a sample AFP file.
2. Click **Resources** → **Modify Font Mapping**.
3. Select the name of a font mapping.
4. Do one of these:
   - Click **Modify** or double-click. You see the Modify Font Mapping window. Do one of these, depending on which font mapping type you selected:
     - For **Character Set**, do one of these:
       - Select a different global identifier from the drop-down list. You can click **Show Common** to view which character sets currently use the selected global identifier and then click **X** in the upper right corner to close the window.
       - Click **Add** to create a new global identifier:
         1. Type a 1- to 5- digit identifer in the **Global Identifier** field.
         2. Click **Show CharSets** to view which character sets currently use the selected global identifier. Click **X** in the upper right corner to close the window.
         3. Modify the point size.
         4. Select a family name and style for the Java font from the drop-down lists.
         5. Click **OK**.

       The family name and style for the Java font are updated.
     - For **Coded Font**, edit the AFP character set name, AFP code page name, or both.
     - For **Code Page**:
       1. Select a different global identifier from the drop-down list.
       2. Click **Show Common** to view which code pages currently use the selected global identifier. Click **X** in the upper right corner to close the window.

       The Java character set name is updated.

     Click **OK**. The font mapping is modified.
   - Click **Delete** or press the Delete key on your keyboard. The font mapping is removed.
5. To close the Modify Font Mappings window, click **X** in the upper right corner.
   The font mapping is updated in the control file. To keep the font mapping changes, save the control file before exiting the AFP file.

Changing the default code page encoding

If the sample AFP file refers to AFP fonts that are based on a code page that is different from the default code page and you have not mapped the fonts to Java fonts, the default code page can cause the text to be unreadable.

If text is unreadable, you can change the default code page to another encoding without modifying the font-mapping files.

The default code page that you specify is in effect until you tell AFP Visual Environment to use a different default code page. However, when you use an existing control file, AFP Visual Environment uses the default code page that was in effect the last time you used the same control file.

To change the default code page to another encoding:

1. In AFP Visual Environment, open a sample AFP file.
2. Click **Resources** → **Modify Default Encoding**.
3. Select a code page encoding from the drop-down list.

   Note

   If you have specified a default code page in the `CodePages.properties` file, the code page specified in that file overrides the code page encoding you select.
4. Click **OK**.

Enabling object selection in sample AFP files

You can change which AFP objects (text, overlays, page segments, barcodes, images) are selectable in the sample AFP file that is currently open.

When you click an object that is selectable in the sample AFP file, you see a red box around it. Then you can see the properties of the object and, depending on the mode you selected, act on it.

By default, each mode lets you select only the types of objects that you can act on. For example, the AFP Indexer mode lets you select text objects, but not overlays, page segments, barcodes, or images. The default for each mode is suitable for most purposes. However, you might want to temporarily make other types of AFP objects selectable so that you can see the properties of other AFP objects in the AFP file. In that case, you should use the enabling object selection function.

Note

1. If you change the mode or open a new sample AFP file after you change the types of object you can select, your changes are lost and the default selections for the current mode are used.
2. You cannot select AFP objects that are defined in a form definition, even if the objects are listed as a resource in the file-structure pane or you have enabled their selection.

To choose which objects are selectable in this AFP file:

1. In AFP Visual Environment, open a sample AFP file.
2. Click **Mode** and a feature.
3. Click **Resources** → **Enable Object Selection**.

4. Indicate which objects you want to select in this AFP file:
   - Click individual objects you want to select:
     - **Text** to select text blocks and to select barcodes that were created using fonts.
     - **Barcodes (BCOCA) and images (IOCA)** to select barcodes that were created using Bar Code Object Content Architecture (BCOCA) and to select images created using Image Object Content Architecture (IOCA).
     - **Page segments** to select page segments.
     - **Overlays** to select overlays.
   - Click **All objects** to select all objects.
   - Click **No objects** to clear all objects.
5. Click **OK**.
6. In the AFP file, you can now select an object that you made selectable and see its properties:
   1. Click an object.

      If you select an area that contains overlapping selectable AFP objects (for example, an area might contain both a BCOCA barcode and text), you see the Select an Object window so you can indicate which object you want to select.
   2. Right-click anywhere in the AFP file to see the properties of the object.
7. Optional: To revert to the default object-selection settings for the current mode, click **Mode** and then click the current mode.

Showing page information in sample AFP files

You can show the names of AFP resources (fonts, page segments, and overlays) that the current page in the AFP file refers to and sheet information for the currently displayed AFP page. For each resource, you can see whether AFP Visual Environment found the resource and where the resource was found.

The sheet information includes page placement and the medium map used on the page. (The medium map specifies formatting options, such as duplex options and overlays.)

If a resource, such as a font, is missing, identify the resource directory that contains the resource to AFP Visual Environment so that AFP Visual Environment can display the data correctly.

To see sheet information, you must specify form definition processing (**Resources** → **Change Form Definition Settings**).

To show page information:

1. In AFP Visual Environment, open a sample AFP file. Then click **Resources** → **Show Page Information**.
2. Click the **Resources** tab.
   You see a table with these columns:
   - **Reference Name**: Name of the resource in the AFP file.
   - **Type**: Type of resource.
   - **Resource name**: Name of the resource that was found. If the resource was not found, the resource name is **Unknown**.

- **Location**: Location of the resource: inline in the AFP document or in a resource directory. If the resource was not found, the resource name is **Not found**.

Note

This table does not show form definitions, color management resources, and data object resources.

3. Optional: To limit the number of resources shown in the table, do one of these:
   - To see only resources that were found, click **Found**.
   - To show only resources that were not found, click **Missing**.
4. Click the **Sheet** tab.
   If form definition processing is specified, you see:
   - **Active Medium Map**: Name of the medium map used for the currently displayed AFP page.
   - **Constant Back**: Whether the constant back is "Yes" or "No".
   - **Constant Front**: Whether the constant front is "Yes" or "No".
   - **N_Up**: Number of equal partitions on the side of a sheet.
   - **Page name**: Identifier for the currently displayed AFP page.
   - **Page number**: Number of the currently displayed AFP page.
   - **Partition**: Number of equal-sized areas on the currently displayed AFP page.
   - **Plex**: Whether printing is done on only one side of the sheet (Simplex) or both sides (Normal Duplex or Tumble Duplex).
   - **Sheet copies**: Number of copies of this sheet to be printed.
   - **Sheet count**: Number of this sheet in the total number of sheets to be printed.
   - **Sheet side**: Front or Back.

   Otherwise, you see the message "Form definition and medium map processing is disabled."
5. Click **OK**.

Specifying a form definition

You can specify whether AFP Visual Environment displays the AFP file with a form definition. You can use an inline form definition or a default form definition from a specified directory.

When a form definition is selected, the defined overlays are used to display information in the AFP file and the medium map information is displayed on the **Page Information** window.

To specify whether a form definition is displayed:

1. In AFP Visual Environment, open a sample AFP file. Then click **Resources** → **Change Form Definition Settings**.
2. Do one of these:
   - Click **Use Inline Form Definition** to override the default form definition.
   - In the **Default** field, type the full path name of the directory that contains the form definition you want to use.

- Click **Browse**, select the form definition you want to use from a list in the window, and then click **OK**.

If you specify a form definition other than the default, it is not saved in the control file. Therefore, each time you open the AFP file, you must specify the form definition if you want to see the medium map information.

3. Click **OK**.
   If you specified a form definition, you can now view the form definition's medium map information in the **Page Information** window on the **Sheet** tab. Otherwise, the medium map information is not displayed.

Checking enhancements to sample AFP files

You can save an output AFP file that contains the enhancements you made to the sample AFP file. This is useful if you want to check that the enhancements were made properly before making the same enhancements to production AFP files.

You can view the enhanced sample AFP file with an AFP viewer or print it on the production printer.

AFP Visual Environment saves the entire sample AFP file even if you did not open the entire file in the user interface. The save process might take a while if the sample AFP file is large.

To check enhancements made to the sample AFP file:

1. In AFP Visual Environment, open a sample AFP file and enhance it.
2. Click **File** → **Save Output File**.
3. Type the full path name of the file you want to create in the **File name** field.
4. Optional: Click **View user log** if you want to view the log that can contain error messages.
5. Click **Save**.
   When the output file has been saved, you see a message that says the save has been completed.
6. To check page groups and index tags, open the AFP file in an AFP viewer. To check the hidden areas and the bar codes, print the output AFP file on the production printer.

Configuring and running a set of filters

You can configure and run a set of filters, in a specific order, to process large AFP files quickly and efficiently.

To configure and run a set of filters:

1. In AFP Visual Environment, open a sample AFP file.
2. If the file does not contain page groups, use AFP Indexer to create page groups.
3. Click **Mode** → **Pipeline Manager**.
4. Click **Tools** → **Manage Pipeline**.

   The **Current Pipeline Definition** list shows the filters currently in the pipeline.

   The **Available Pipeline Elements** list shows all the filters. You can add some filters to the **Current Pipeline Definition** list multiple times.
5. To add a filter to the pipeline definition:

1. Select the filter on the **Available Pipeline Elements** list.

   AFP Visual Environment displays a brief description of the filter.
2. Click **Add**.
3. If the filter has parameters, enter values for them.

   If 2 or more parameters have a **Group Parameter** label, you must configure them as a group.
4. Click **OK**.
5. **Optional:** Edit the name of the filter.
6. Click **OK**.
   The filter appears at the bottom of the list.
7. To move the filter to another position on the list, click **Up**.

   Note

   The order of the filters is important. Running filters such as Indexer and Remove Page Groups in a different order can give different results.

   AFP Visual Environment runs the filters in order, from top to bottom.

6. To save your changes, click **Apply**.

4. Indexing AFP files

- **Creating page groups**
- **Defining supplemental pages**
- **Creating index tags**
- **Working with page-level indexes**
- **Modifying or deleting AFP Indexer definitions**
- **Using existing page groups and index tags**
- **Editing text for triggers and index tags**
- **Managing comments**

AFP Indexer can create page groups, define supplemental pages, and create indexes in AFP files so that the information can be used to navigate to indexed pages in the file and exclude non-customer information from mailpieces.

Creating page groups

You can create page groups in AFP files. Page groups organize AFP files into smaller, uniquely identifiable units. When you create page groups, any existing page groups defined in the AFP file itself are not used.

You can create page groups that are a fixed number of pages long, or you can create page groups of variable length by defining triggers. You can also define which pages are used for header and trailer pages. AFP Indexer creates the first page group after the defined number of header pages. It creates the final page group before the defined number of trailer pages.

The sample AFP file must contain page groups before you can define header and trailer pages, create index tags for a page group, or make any other enhancements. If page groups are defined in the AFP file itself, you can use these page groups or you can create new page groups.

Creating page groups of fixed length

You can create page groups that are of fixed length. This is useful if all page groups in the AFP file always consist of the same number of pages.

When you create fixed-length page groups, AFP Indexer can skip a certain number of pages at the beginning of the AFP file before creating the first page group.

Notes:

1. Some AFP files are formatted so that two pages print side-by-side on the same physical sheet and are later cut into two separate stacks. You cannot use AFP Indexer to define page groups in files such as these because a single sheet can belong to only one page group.
2. You cannot define supplemental pages for pages in a page group that is created as a fixed-length page group.

To create page groups of fixed length:

1. In AFP Visual Environment, open a sample AFP file. Then click **Mode** → **AFP Indexer**.
2. Click **Tools** → **Other Page Groups** → **Create Fixed-Length Page Groups**.

   You might see a message that says the page groups and indexes might change or be invalid and asks if you want to continue. Click **Yes**. You see the Create Fixed-Length Page Groups window.

3. Select the number of pages in each page group in the **Pages in each page group** field.
4. Click **Header/Trailer Definition** to specify which pages are header and trailer pages and then click **OK**.
5. Click **OK**.
   In the left pane and in the bottom pane, you see the page groups that have been defined based on the number of pages you specified. You also see the pages that are included in each page group.

   If you defined header and trailer pages and decided to keep the pages in the output, you see header pages preceding the page groups in the left pane and trailer pages following the page groups. If you decided not to keep the header and trailer pages in the output, you do not see those pages in the left pane.
6. Verify that the correct page groups have been created:
   1. Check that the number of pages is correct in each page group.
   2. Select page groups in the left pane to see the first page in a few of the page groups and verify that the correct boundaries were created.
   3. If the page groups are incorrect, either repeat the steps to recreate the fixed-length page groups, or use triggers to create page groups of variable length.

      When you create page groups using triggers, the page groups of fixed length are removed.

Creating page groups with triggers

You can create page groups by defining one or more **triggers**. A trigger is a block of text that occurs in a consistent location on the first or last page of all page groups.

You define the start of each page group with a trigger. As an option, you can also define the last page of a page group with a trigger.

Look through the sample AFP file to determine what text you want to use as the trigger to define page groups. The text must be in the same location on each page that you want to identify as a boundary for the page groups. The text can also have the same value on each page. For example, you might select the customer's name, which appears in the same location on the first page of all customer statements. The name can be used as a trigger to define the boundary of the page group if the next pages of the customer statements do not contain any text in the selected text block location. Keep in mind that the boundary is defined only when the text block cannot be found in the selected location, or the exact text block string cannot be found in the selected location.

You can create one or more triggers. AFP Indexer creates a page group if it finds all the triggers.

Note

1. Some AFP files might be formatted so that two pages print side-by-side on the same physical sheet and are later cut into two separate stacks. You cannot use AFP Indexer to define page groups in files such as these because a single sheet can belong to only one page group. You cannot define two triggers that cause the left and right sides of the sheet to belong to different page groups.
2. In AFP Visual Environment you can display measurement units in inches or millimeters. To change the measurement unit, click **View** → **Units**.

To create page groups with triggers:

1. In AFP Visual Environment, open a sample AFP file. Then click **Mode** → **AFP Indexer**.
2. Click the text that you want to use to mark the page group boundaries in the file.
   You see a red box around the text you selected.

   The text blocks you can select are defined in the AFP file, from one character to the entire line of text. For example, the text "Account Summary" might be defined as two text blocks. You can click either the "Account" or "Summary" text block to create a trigger.
3. Right-click the text and click **Create Trigger**.

   You might see a message that says the page groups might change or the index tags might be invalid and asks if you want to continue. Click **Yes**.
   You see the Create Trigger window with the selected text in the **Edited trigger** field.

   Note

   - You might need to use the scroll arrows to see the text in the **Edited trigger** field.
4. Decide whether you want to use the entire text value as the page-group trigger or only part of the text. You can edit the text value to reduce the number of characters you use for the trigger value. To select part of the text as the trigger:

   1. Click **Edit trigger**.
   2. Edit the trigger value in the Edit Value window.

      For example, if the page number is one text block, *Page 1 of 4*, you can create a trigger with the part of the page number that occurs on the first page of each page group, such as *Page 1*. You would not use *of 4* because not all page groups are 4 pages long–the first page of some page groups might contain text *Page 1 of 2* or *Page 1 of 3*.
   3. Click **OK**.
5. Select a trigger type:

   Start page group

   The text block marks the start of the page group boundaries in the file. This trigger type is required.

   End page group

   The text block marks the end of the page group boundaries in the file. This trigger type is optional.

   You might see these trigger types; however, they are not used to create page groups:

   Page

   The text block marks an individual page in a page group. See Creating page-level triggers, p. 80.

   Supplemental page

   The text block marks an individual page as a supplemental page. See Creating triggers for supplemental pages, p. 69.
6. Click the **Advanced** tab to change the text threshold, the method for matching the trigger, or both:

- Select a range from 1/100 to 1 inch or from 1 to 25 millimeters for the text threshold. Although text might appear to be present in the same location, slight position variations can occur in the AFP file. You can change the threshold to look for trigger text that is in slightly different positions on some pages. The threshold defines how far the text can be from the original location and be considered a trigger. For example, a threshold value of 12 indicates that the trigger can be located within .12 of an inch or 12 millimeters, either vertically or horizontally. Usually the default threshold value is sufficient (10 for inches or 2 for millimeters).
- Select the method used to match the trigger–on the trigger string value and the text block position, or on the position only:

  On string and X,Y position

  The trigger string value and horizontal and vertical position of the text block are matched. This is the default.

  On string and X position

  The trigger string value and horizontal position of the text block are matched.

  On string and Y position

  The trigger string value and vertical position of the text block are matched.

  On X,Y position only

  The horizontal and vertical position of the text block is matched.

1. **Optional:** Select **Trigger on string value changing** to activate the trigger when the value changes from the value in the field where the trigger was first defined.
2. **Optional:** After you select **Trigger on string value changing**, select **Trigger on any change in string** to activate the trigger when the value changes from any previous value in the field.

7. Click **OK**.
   In the left pane and in the bottom pane, you see the page groups that have been defined based on the trigger value. You also see the pages that are included in each page group.
8. Verify that the correct page groups have been created:
   1. Check that the number of pages is correct in each page group.
   2. Select page groups in the left pane to see the first page in a few of the page groups and verify that the correct boundaries were created.
   3. If the page groups are incorrect, click **Tools** → **Modify Definitions** to modify or delete the trigger.
      The trigger is listed as a **Page Group Definition** under **Start Page Group Triggers** or **End Page Group Triggers**.
9. **Optional:** To create an additional trigger, repeat the steps.

   Make sure you select the text for the trigger from the same page group as the initial trigger.

Creating page groups when white space is found

You can create page groups when white space is found in an area. White space does not contain IOCA (Image Object Content Architecture) image data. As an alternative, you can create page groups when IOCA image data is found in an area.

A white space trigger is white space that occurs in a consistent location on the first page of all page groups. You define the start of each page group with the trigger.

If you create page groups using triggers, all existing page groups that are defined in the AFP file itself are ignored.

To create page groups when white space is found:

1. In AFP Visual Environment, open a sample AFP file that contains the white space that you want to use to trigger page groups. Then click **Mode** → **AFP Indexer**.
2. To create the area, position your cursor at a corner of the area that contains the white space that you want to use to trigger page groups. While pressing the left mouse button, draw a box that includes the white space.
3. Right-click anywhere on the page and click **Create White Space Trigger.**.

   You see the Trigger on White Space window.
4. Type a descriptive name for the white space trigger in the **WS Trigger definition name** field.
5. Choose when to start a page group:

   - The **pels found** option starts a new page group when the bounded area contains IOCA image data.
   - The **pels not found** option starts a new page group when the bounded area does not contain IOCA image data.

     Note

     Text is not IOCA image data.
6. **Optional:** Change the origin (top-left corner) and size of the bounded area in these fields. Decimal values (such as 2.5) are allowed. Specify the origin and size in inches or millimeters.

   X position

   The horizontal distance of the left side of the area measured from the left side of the logical page (not the physical sheet of paper).

   Y position

   The vertical distance of the top of the area measured from the top of the logical page (not the physical sheet of paper).

   Width

   The horizontal width of the area.

   Height

   The vertical height of the area.

Note

If you rotated the AFP file using the **Rotate by 90°** option on the **View** menu, measure the X and Y positions from the top-left corner of the logical page in the unrotated view.

7. Click **OK**.

   In the left pane and in the bottom pane, you see the page groups that have been defined based on the trigger. You also see the pages that are included in each page group.

8. Verify that the correct page groups have been created:

   1. Check that the number of pages is correct in each page group.
   2. Select page groups in the left pane to see the first page in a few of the page groups and verify that the correct boundaries were created.
   3. If the page groups are incorrect, click **Tools** → **Modify Definitions** to modify or delete the trigger.
      The trigger is listed as a **Page Group Definition** under **Start Page Group Triggers** .

Defining header and trailer pages

After you create fixed-length page groups or page groups with triggers, you can define header and trailer pages and decide if the pages are kept in the final output for viewing and printing.

When you define header pages, AFP Indexer skips the defined number of header pages at the beginning of the AFP file before creating the first page group.

Note

The header and trailer pages are supplemental pages, so you can index any text in those pages.

To define header and trailer pages:

1. In AFP Visual Environment, open a sample AFP file. Then click **Mode** → **AFP Indexer**.
2. If the AFP file does not contain page groups, create page groups.
3. Click **Tools** → **Header and Trailer Pages**.
   You see the **Header and Trailer Pages** window.
4. If the page groups are created with triggers, do one of these:
   - Click **All pages before the first page group** to define all pages before the first page group as header pages.
   - Click **Fixed length header** to define a certain number of pages as header pages.
5. If displayed, select the number of header pages in **Pages in header**.
6. If displayed, select the number of trailer pages in **Pages in trailer**.
7. Clear the boxes if you do not want to keep the header or trailer pages in the output. The pages will not be viewable or printable.
8. Click **OK**.
   If you defined header and trailer pages and decided to keep the pages in the output, you see header pages preceding the page groups in the left pane and trailer pages following the page

groups; if you want, you can create index tags on those pages. If you decided not to keep the header and trailer pages in the output, you do not see those pages in the left pane.

Defining supplemental pages

You can define pages in an AFP file as supplemental pages when you do not want to include them in page groups. For example, header and trailer pages, separator pages, and any page that should be excluded from a customer statement can be defined as supplemental pages.

You can define supplemental pages with one or more triggers or index tags to uniquely identify a page that is outside a page group. When you define a supplemental page, you give it a page definition name. This lets you define multiple supplemental pages.

Note

The term "page definition" in AFP Indexer refers to a supplemental page definition, a page-level trigger, or a page-level index, not the AFP page definition resource.

Creating triggers for supplemental pages

You can define supplemental pages by creating one or more **triggers**. A trigger is a block of text that occurs in a consistent location and uniquely identifies a page.

If you create a supplemental page trigger on a page that is in a page group, the supplemental page is removed from the page groups in the control file, unless the page group is an existing page group or created as a fixed-length page group.

Look through the sample AFP file to determine what pages should be supplemental pages and not included in a page group. You select one or more triggers to define a supplemental page with a page definition name. For example, a banner page that is defined with a supplemental page trigger can have a page definition name of "Banner". AFP Indexer creates a supplemental page if it finds all the triggers.

Notes:

1. Some AFP files might be formatted so that two pages print side-by-side on the same physical sheet and are later cut into two separate stacks. You cannot use AFP Indexer to define supplemental pages in files such as these because a single sheet cannot belong to a page group and a supplemental page. You cannot create two triggers that cause the left side of the sheet to belong to a page group and the right side to belong to a supplemental page.
2. In AFP Visual Environment you can display measurement units in inches or millimeters. To change the measurement unit, click **View** → **Units**.

To create triggers that define supplemental pages:

1. In AFP Visual Environment, open a sample AFP file. Then click **Mode** → **AFP Indexer**.
2. Click the text that you want to use to mark the supplemental page in the file.
   You see a red box around the text you selected.

   The text blocks you can select are defined in the AFP file, from one character to the entire line of text. For example, the text "Banner Page" might be defined as two text blocks. You can click either the "Banner" or "Page" text block to create a trigger.
3. Right-click the text and click **Create Trigger**.

You might see a message that says the page groups might change or the index tags might be invalid and asks if you want to continue. Click **Yes**.
You see the Create Trigger window with the selected text in the **Edited trigger** field.

Note

You might need to use the scroll arrows to see the text in the **Edited trigger** field.

4. Decide whether you want to use the entire text value as the supplemental page trigger or only part of the text. You can edit the text value to reduce the number of characters you use for the trigger value. To select part of the text as the trigger:
   1. Click **Edit trigger**.
   2. Edit the trigger value in the Edit Value window.
   3. Click **OK**.
5. Click **Supplemental page** for the trigger type.
   You see the **Select supplemental page definition** field.
6. Type a name to identify the supplemental page or select a name from the drop-down list.
7. Click the **Advanced** tab to change the text threshold, the method for matching the trigger, or both:
   - Select a range from 1/100 to 1 inch for the text threshold. Although text might appear to be present in the same location, slight position variations can occur in the AFP file. You can change the threshold to look for trigger text that is in slightly different positions on some pages. The threshold defines how far the text can be from the original location and be considered a trigger. For example, a threshold value of 12 indicates that the trigger can be located within .12 of an inch either vertically or horizontally. Usually the default threshold value of 10 is sufficient.
   - Select the method used to match the trigger–on the trigger string value and the text block position, or on the position only:

     On string and X,Y position

     The trigger string value and horizontal and vertical position of the text block are matched. This is the default.

     On string and X position

     The trigger string value and horizontal position of the text block are matched.

     On string and Y position

     The trigger string value and vertical position of the text block are matched.

     On X,Y position only

     The horizontal and vertical position of the text block is matched.
8. Click **OK**.
   If you created a supplemental page trigger on a page that was in a page group (unless the page group is an existing page group or created as a fixed-length page group), the supplemental page is removed from the page group.
9. To modify or delete the supplemental page trigger, click **Tools** → **Modify Definitions**.
   The trigger is listed as a **Supplemental Page Definition** under **Page Triggers**.

10. Optional: To create an additional trigger for the supplemental page or to define a different supplemental page, repeat the steps.

Creating index tags on supplemental pages

You can create one or more **index tags** on pages that are not included in page groups.

To create an index tag on a supplemental page:

1. In AFP Visual Environment, open a sample AFP file. Then click **Mode** → **AFP Indexer**.
2. Select a page that is outside a page group.
3. Click a text block or draw a box around a text area or address area that you want to index. The text blocks you can select are defined in the AFP file, from one character to the entire line of text. You see a red box around the data you selected.
4. Right-click anywhere on the page and then click **Create Index Tag** or **Create Index Tags for an Address**.
   You see the Create Supplemental Page Index Tag window, Create Index Tags in an Area window, or Create Index Tags in an Address Area window.
5. Follow the procedure in Creating index tags for text blocks, p. 71, Creating index tags in areas, p. 73, or Creating index tags in address areas, p. 75 and select an existing supplemental page definition from the drop-down list or type a new supplemental page definition name.
6. Click **OK** when you are done creating the index tag.
7. Verify that the correct index tag has been created:
   1. Right-click on the page in the left pane and click **Properties**.
      The name of the index tag and its value are listed in the TLE field.
   2. To close the Properties window, click **X** in the upper right corner.
   3. If the index tag is incorrect, click **Tools** → **Modify Definitions** to modify or delete the tag.
      The index tag is listed as a **Supplemental Page Definition** under **Page Indexes**, **Index areas**, or **Address Indexes**.
8. Optional: To create an additional index tag on the supplemental page or to define an index tag on a different supplemental page, repeat the steps.

Creating index tags

You can create index tags in AFP files. When a file contains index tags, you can use an AFP viewer to navigate in the file to find specific data viewer to navigate in the file to find specific data. You can also use the index tag values in barcode data.

Creating index tags for text blocks

You can create an index tag for text in an AFP text block. You can edit the text in the block to remove unwanted characters, such as blanks or special characters.

Notes:

1. If the AFP file does not contain page groups, create page groups. Otherwise, to create an index tag on a page outside a page group, see Creating index tags on supplemental pages, p. 71.
2. In AFP Visual Environment you can display measurement units in inches or millimeters. To change the measurement unit, click **View** → **Units**.

To create an index tag for a text block:

1. In AFP Visual Environment, open a sample AFP file that contains the text you want to index. Then click **Mode** → **AFP Indexer**.
2. Click the text that you want to use to mark specific data in each page group. The text blocks you can select are defined in the AFP file, from one character to the entire line of text. You see a red box around the text you selected.
3. Right-click anywhere on the page and click **Create Index Tag**. You see the Create Index Tag window with the text to index in the **Edited index value** field.
4. Use the default code page encoding or select an encoding from the drop-down list if the text displays incorrectly.
5. Type a descriptive name for the index tag in the **Index tag name** field. For example, if you select "Joe Smith" for the index tag, the name could be "Customer name".
6. Decide whether you want to use the entire text value to create the index tag or specify part of the text. You can edit the text block to reduce the number of characters you use for the index value (you cannot increase the characters in a text block). To select part of the text as the index tag:
    1. Click **Edit index value**.
    2. Edit the index value in the Edit Value window.

       For example, if the account number is one text block, *01-345678*, you can create an index value with part of the account number, such as *345678*.
    3. Click **OK**.
7. Make sure **Page group** is selected as the index type.

   You also see the index type **Page within page group**, which is used to create an index tag on an individual page in a page group. See Creating page-level indexes, p. 81.
8. Click the **Advanced** tab to change the threshold to look for a text value that is in slightly different positions on some pages. You can select a range from 1/100 to 1 inch or from 1 to 25 millimeters.

   Although text might appear to be present in the same location on each statement, slight position variations can occur in the AFP file. The threshold defines how far the text can be from the original location and be considered an index tag. For example, a threshold value of 12 indicates that the index tag can be located within .12 of an inch or 12 millimeters, either vertically or horizontally. Usually the default threshold value of 10 is sufficient (10 for inches or 2 for millimeters).

   Keep in mind that if you increase the threshold above the default value, you might create an index tag you did not expect because the match is only done on location, so the first text block found in the threshold range is used as the index tag.
9. Click **OK**. You see the index tags listed in the bottom pane for each page group.
10. Verify that the correct index tag has been created:
    1. Double-click the index tag in the bottom pane and verify that the correct page in the page group is displayed.

2. If the index tag is incorrect, click **Tools** → **Modify Definitions** to modify or delete the tag. The index tag is listed as a **Page Group Definition** under **Page Group Indexes**.

Creating index tags in areas

You can create index tags for text in an area.

The area must occur in a consistent location in each page group; however, it can consist of a variable number of lines. In the index area, you can create an index tag with text from more than one AFP text block on a line. You can concatenate the text in the text blocks, or separate the text with a blank or any other character. You can also edit the text to remove unwanted characters.

For example, a customer account number might occur on the first page of each page group in three separate AFP text blocks on the same line. To create an index tag that contains the entire account number, first you identify the account number area by drawing a box around all three text blocks. Then you create one index tag with text from all three text blocks, and you specify the character to use to separate the text in each text block. If the text blocks contain account number "123", "45", and "678", the index tag can contain: "12345678", "123 45 678", or "123-45-678".

Notes:

1. If the AFP file does not contain page groups, create page groups. Otherwise, to create an index tag for an area on a page outside a page group, see Creating index tags on supplemental pages, p. 71.
2. In AFP Visual Environment you can display measurement units in inches or millimeters. To change the measurement unit, click **View** → **Units**.

To create index tags in an area:

1. In AFP Visual Environment, open a sample AFP file that contains the text you want to index. Then click **Mode** → **AFP Indexer**.
2. To create the index area, position your cursor at a corner of the area that contains text you want to index. While pressing the left mouse button, draw a box that includes the text you want to index.

   The index area must include the first character in each AFP text block that you want to index; however, the area does not need to include all the characters in the AFP text blocks.
3. Right-click anywhere on the page and click **Create Index Tags**.
   You see the Create Index Tags in an Area window.
4. Check that the text you want to index is shown in the **Lines in the area** field. If the text is not shown, click **Cancel** and redraw the area on the page, or click the **Position** tab to adjust the origin and size of the index area.

   Note

   If the text displays correctly in the AFP file but incorrectly in the **Lines in the area** field, try changing the default code page (**Resources** → **Modify Default Encoding**). If the text still does not display correctly, this usually indicates that the code page does not use standard Unicode mapping. In this case, use the `SampleCodePointMap.cp` font-mapping file to create a code point map file before proceeding.

5. Optional: On the **Position** tab, change the origin (top-left corner) and size of the index area in these fields. Decimal values (such as 2.5) are allowed. Specify the origin and size in inches or millimeters.

   X position

   The horizontal distance of the left side of the area measured from the left side of the logical page (not the physical sheet of paper).

   Y position

   The vertical distance of the top of the area measured from the top of the logical page (not the physical sheet of paper).

   Width

   The horizontal width of the area.

   Height

   The vertical height of the area.

   Note

   If you rotated the AFP file using the **Rotate by 90°** option on the **View** menu, measure the X and Y positions from the top-left corner of the logical page in the unrotated view.

6. On the **Index Tags** tab, type a descriptive name for the area in the **Index area name** field.

   For example, if the area contains an account number, the name could be "Account number area".

7. Specify the character or characters that you want to use to separate text blocks in the **Character between text blocks** field.

   The default character that separates text blocks is one blank. If you want to concatenate the text in multiple text blocks, delete the blank from the field.
   In the **Lines in the area** field you see the text with the character that you specified (if any) shown between the text blocks.

8. To create an index tag for the text shown in a line in the area:

   1. Click **Add**.
   2. Use the default code page encoding or select an encoding from the drop-down list if the text displays incorrectly.
   3. Type a descriptive name for the index tag.

      For example, if the index tag contains an account number, the name could be "Account number".

   4. Select the line that contains the text you want to index:

      - To select the first line or a line relative to the first line, click **First line**. Then use the drop-down list for this field to select a relative line. For example, select **First line plus 1**.
      - To select the last line or a line relative to the last line, click **Last line**. Then use the drop-down list for this field to select a relative line. For example, select **Last line minus 1**.

      You see the value of the index tag in the **Edited value** field.

5. Decide whether you want to use the entire text value to create the index tag or only part of the text. To select part of the text as the index tag, click **Edit index value**. Edit the index value in the Edit Value window and click **OK**.
6. Clear the **Create tag for an empty value** field if you do not want AFP Indexer to create index tags with null values.

   Otherwise, an index tag contains the value "null" if the text that you indexed does not exist in a particular page group. For example, if a page group has an address that does not contain a country name, the index tag for country name is "null" for that page group.
7. Click **OK**.
   You see the index tag and the index tag value in the **Index tags for specific lines** field.

9. Optional: To create another index tag with text on the same line or on a different line, click **Add** again.

   You can create as many index tags as you want in the area.
10. Click **OK**.
    You see the index tags listed in the bottom pane for each page group.
11. Verify that the correct index tags have been created:
    1. Double-click the index tags in the bottom pane and verify that the correct pages in the page groups are displayed.
    2. If an index tag is incorrect, click **Tools** → **Modify Definitions** to modify or delete the tag. The index tag is listed under **Page Group Definition** → **Page Group Indexes** → **Index areas**.

Creating index tags in address areas

You can create index tags for mailing addresses in an address area.

The area must occur in a consistent location in each page group; however, it can consist of a variable number of lines. In the area, you can create an index tag for a ZIP Code that is in the U.S. Postal Service format.

For example, a customer address might consist of either 3 or 4 lines, with the ZIP Code always on the last line. First you identify the location and size of the address area by drawing a box around an address that contains the maximum lines in the address: in this example, 4 lines. If the sample AFP file does not have an address with the maximum number of lines, draw a box large enough to include all possible lines in the address area. If you know the exact position and size of the address area, you can adjust the size of the box you drew by specifying the exact X offset, Y offset, height, and width of the address area. (X and Y offsets are from the origin of the logical page, not the physical sheet of paper.)
Notes:

1. If the AFP file does not contain page groups, create page groups. Otherwise, to create an index tag for an address area on a page outside a page group, see Creating index tags on supplemental pages, p. 71.
2. In AFP Visual Environment you can display measurement units in inches or millimeters. To change the measurement unit, click **View** → **Units**.

Next you can create index tags for text on specific lines: the customer name on the first line, the city on the last line, and the state on the last line. Then you can create multiple index tags for the intermediate lines that contain the street address. **Intermediate lines** are the lines between the specific lines that you indexed. The address area can contain a variable number of intermediate lines, as shown:

```
JOHN SMITH <-- first line
123 MAIN STREET <-- intermediate line 1
SUITE 100 <-- intermediate line 2 (optional line)
DENVER, CO 12345-6789 <-- last line
```

If the ZIP Code is in the U.S. Postal Service format (*nnnnn* or *nnnnn-nnnn*), AFP Indexer can automatically extract the ZIP Code on a line and create an index tag for it.

Note

In an address area, you can create one or more index tags. For example, you can create an index tag for the ZIP Code without creating index tags for any other text in the address area.

To create index tags in an address area:

1. In AFP Visual Environment, open a sample AFP file that contains the addresses that you want to index in the format that you want to index. Then click **Mode** → **AFP Indexer**.
2. Navigate to an address that contains the maximum number of lines.

   If you cannot find an address with the maximum number of lines, in the next steps either draw a larger area or specify the exact size of the address area on the **Position** tab to include the maximum number of lines.
3. To create the address area, position your cursor at a corner of the area that contains the entire address. While pressing the left mouse button, draw a box that includes all the lines in the address.

   The address area must include the first character in the AFP text blocks that you want to index; however, it does not need to include all the text because text blocks can contain text of variable length in different page groups. For example, a text block that contains a customer name might contain a short name in one page group and a long name in another page group.
4. Right-click anywhere on the page and click **Create Index Tags for an Address**.
   You see the Create Index Tags in an Address Area window.
5. Check that the text you want to index is shown in the **Index tags for intermediate lines** field. If the text is not shown, click **Cancel** and redraw the area on the page, or click the **Position** tab to adjust the origin and size of the address area.

   Note

   If the text displays correctly in the AFP file but incorrectly in the **Index tags for intermediate lines** field, try changing the default code page (**Resources** → **Modify Default Encoding**). If the text still does not display correctly, this usually indicates that the code page does not use standard Unicode mapping. In this case, use the `SampleCodePointMap.cp` font-mapping file to create a code point map file before proceeding.
6. Optional: On the **Position** tab, change the origin (top-left corner) and size of the address area in these fields. Decimal values (such as 2.5) are allowed. Specify the values in inches or millimeters.

   X position

   The horizontal distance of the left side of the area measured from the left side of the logical page (not the physical sheet of paper).

Y position

The vertical distance of the top of the area measured from the top of the logical page (not the physical sheet of paper).

Width

The horizontal width of the area.

Height

The vertical height of the area.

Note

If you rotated the AFP file using the **Rotate by 90°** option on the **View** menu, measure the X and Y positions from the top-left corner of the logical page in the unrotated view.

7. On the **Index Tags** tab, type a descriptive name for the area in the **Index area name** field.

   For example, if the area contains the customer's address, the name could be “Customer address area”.

8. Specify the character or characters that you want to use to separate text blocks in the **Character between text blocks** field.

   The default character that separates text blocks is one blank. If you want to concatenate the text in multiple text blocks, delete the blank from the field.
   In the **Index tags for intermediate lines** field you see the text with the character that you specified, if any, shown between the text blocks.

9. Optional: To create an index tag for a specific line in the area:

   1. Click **Add**.
   2. Use the default code page encoding or select an encoding from the drop-down list if the text displays incorrectly.
   3. Type a descriptive name for the index tag.

      For example, if the line contains the customer name, the name could be “Customer”.

   4. Select the line that contains the text you want to index:

      - To select the first line or a line relative to the first line, click **First line**. Then use the drop-down list for this field to select a relative line. For example, select **First line plus 1**.
      - To select the last line or a line relative to the last line, click **Last line**. Then use the drop-down list for this field to select a relative line. For example, select **Last line minus 1**.

   5. Decide whether you want to use the entire text value to create the index tag or only part of the text. To select part of the text as the index tag, click **Edit index value**. Edit the index value in the Edit Value window and click **OK**.
      You see the value of the index tag in the **Edited value** field.
   6. Clear the **Create tag for an empty value** field if you do not want AFP Indexer to create index tags with null values.

      Otherwise, an index tag contains the value “null” if the text that you indexed does not exist in a particular page group. For example, if a page group has an address that does not contain a country name, the index tag for country name is “null” for that page group.

   7. Click **OK**.

You see the index tag and the index tag value in the **Index tags for specific lines** field.

10. Optional: To create another index tag with text on the same line or on a different line, click **Add** again.

    You can create as many index tags for specific lines as you want in the area.

11. Optional: To create index tags for the lines that are shown in the **Index tags for intermediate lines** field:

    1. Click **Index intermediate lines**.
    2. Specify the name for the index tags in the **Index tag name** field. For example, the name could be "Street".
    3. Use the drop-down box next to the **Index tag name** field to select the number to append to the index tag for the first intermediate line.
    4. Use the default code page encoding or select an encoding from the drop-down list.

    AFP Indexer creates index tags for each intermediate line in the area; for example: "Street1" and "Street2". AFP Indexer does not create index tags for intermediate lines that do not exist in a page group. For example, if the address in a particular page group does not contain the second intermediate line in the street address, AFP Indexer only creates index tag "Street1".

12. Optional: To create an index tag for a ZIP Code in the U.S. Postal Service format (*nnnnn* or *nnnnn-nnnn*):

    1. Click the **ZIP Code** tab.
       You see the ZIP Code in the **ZIP Code** field.
    2. Type a descriptive name for the index tag.

       For example, the name could be "ZIP Code".
    3. Use the default code page encoding or select an encoding from the drop-down list.
    4. Clear the **Create tag for an empty value** field if you do not want AFP Indexer to create an index tag with a "null" value. Otherwise, if the ZIP Code does not exist in a particular page group, the index tag for that page group contains the value "null".

13. Click **OK**.
    You see the index tags listed in the bottom pane for each page group.
14. Verify that the correct index tags have been created:

    1. Double-click the index tags in the bottom pane and verify that the correct pages in the page groups are displayed.
    2. If an index tag is incorrect, click **Tools** → **Modify Definitions** to modify or delete the tag. The index tag is listed under **Page Group Definition** → **Page Group Indexes** → **Address Indexes**.

Creating index tags from NOP records

You can create index tags from No Operation (NOP) records.

NOP records can be found anywhere in a page group–either on a page in the page group or outside the logical AFP pages. You can create index tags for NOP records that are in the same position in all

page groups, but outside a page, or you can create index tags for specific NOP records that are in any location in the page groups–on a page or outside a page.

A **NOP record** causes an application to move to the next instruction for processing without taking any other action. Some applications put information about individual documents in NOP records so that the information is not printed, but it can be worked with. Though NOP records in the AFP file are not viewable or printable, you can create index tags from them as long as they are associated with a page group or a page in a page group.

To create index tags from page group NOPs:

1. In AFP Visual Environment, open a sample AFP file. Then click **Mode** → **AFP Indexer**.
2. If the AFP file does not contain page groups, create page groups.
3. Click **Tools** → **Index Tools** → **Create Indexes from NOPs**.

   You see the **Select NOP by String** window. This option lets you use selection criteria to search for NOP records in any location in the page groups and create index tags from the specified NOP record. Do these:

   1. Optional: If the text in the NOP record does not look correct, click **ASCII** to change the NOP encoding; **EBCDIC** is the default.
   2. From the drop-down list, view the NOPs available for selection.
   3. Type a string in the **Search String** field to identify the NOP you want to use to create an index tag. The field is case-sensitive. For example, if you want to index a NOP record that contains an account number, specify a string of characters that uniquely identify the NOP record.
   4. Select a number in the **Select first character position** field until the NOP record you want is displayed in the **Matching NOP** field.
   5. Click **OK**. You see the Create Index Tag window with the NOP text to index in the **Edited value** field.
4. Create the index tag:

   1. Type a descriptive name for the index tag in the **Index tag name** field.
   2. Optional: To edit the text value and select part of the text as the index tag, click **Edit index value**. Edit the index value in the Edit Value window and click **OK**.
5. Click **OK**.
   In the bottom pane, you see the index tag listed if the NOP record is on a page in the page group.
6. Optional: To create additional index tags, repeat the steps.
7. If an index tag is incorrect, click **Tools** → **Modify Definitions** to modify or delete the tag.
   The NOP index tag is listed under **Page Group Definition** → **Page Group Indexes** → **NOP Index tags**.

Working with page-level indexes

Page-level index tags are defined on individual pages in a page group rather than within the page group.

To create page-level indexes, you first create triggers that define individual pages in a page group. Then you create indexes on the defined pages. AFP Indexer also lets you copy or move page-level index tags to a page group.

Note

The term "page definition" in AFP Indexer refers to a page-level trigger, a page-level index, or a supplemental page definition, not the AFP page definition resource.

Creating page-level triggers

In an AFP file with existing page groups or after you create page groups in a file, you can create triggers to define individual pages in page groups.

You can create one or more triggers on an individual page, with the same or different page definition names. AFP Indexer defines a page if it finds all the triggers with the same page definition name.

Note

In AFP Visual Environment you can display measurement units in inches or millimeters. To change the measurement unit, click **View** → **Units**.

To create page-level triggers:

1. In AFP Visual Environment, open a sample AFP file. Then click **Mode** → **AFP Indexer**.
2. Select a page in a page group.
3. Click the text that you want to use as a trigger.
   You see a red box around the text you selected.

   The text blocks you can select are defined in the AFP file, from one character to the entire line of text. For example, the text "Account Summary" might be defined as two text blocks. You can click either the "Account" or "Summary" text block to create a trigger.
4. Right-click the text and click **Create Trigger**.

   You might see a message that says the page groups might change or the index tags might be invalid and asks if you want to continue. Click **Yes**.
   You see the Create Trigger window with the selected text in the **Edited trigger** field.

   Note

   You might need to use the scroll arrows to see the text in the **Edited trigger** field.
5. Decide whether you want to use the entire text value as the page-level trigger or only part of the text. You can edit the text value to reduce the number of characters you use for the trigger value. To select part of the text as the trigger:

   1. Click **Edit trigger**.
   2. Edit the trigger value in the Edit Value window.
   3. Click **OK**.
6. Click **Page** for the trigger type.
   You see the **Select page definition** field.

7. Type a name to identify the page or select a name from the drop-down list.
8. Click the **Advanced** tab to change the text threshold, the method for matching the trigger, or both:
   - Select a range from 1/100 to 1 inch for the text threshold. Although text might appear to be present in the same location, slight position variations can occur in the AFP file. You can change the threshold to look for trigger text that is in slightly different positions on some pages. The threshold defines how far the text can be from the original location and be considered a trigger. For example, a threshold value of 12 indicates that the trigger can be located within .12 of an inch either vertically or horizontally. Usually the default threshold value of 10 is sufficient.
   - Select the method used to match the trigger–on the trigger string value and the text block position, or on the position only:

     On string and X,Y position

     The trigger string value and horizontal and vertical position of the text block are matched. This is the default.

     On string and X position

     The trigger string value and horizontal position of the text block are matched.

     On string and Y position

     The trigger string value and vertical position of the text block are matched.

     On X,Y position only

     The horizontal and vertical position of the text block is matched.
9. Click **OK**.
10. Click **Tools** → **Modify Definitions** to modify or delete the trigger.
    The trigger is listed under **Page Group Definition** → **Page Definition** → **Page Triggers**.
11. Optional: To create an additional trigger, repeat the steps.

Creating page-level indexes

After you create triggers to define individual pages in page groups, you can create index tags on the individual pages.

Note

In AFP Visual Environment you can display measurement units in inches or millimeters. To change the measurement unit, click **View** → **Units**.

To create an index tag for a text block:

1. In AFP Visual Environment, open a sample AFP file. Then click **Mode** → **AFP Indexer**.
2. If the AFP file does not contain page definitions in page groups, create one or more page-level triggers.
3. Select a page in a page group.

4. Click the text that you want to index. The text blocks you can select are defined in the AFP file, from one character to the entire line of text. You see a red box around the text you selected.
5. Right-click the text and click **Create Index Tag**. You see the Create Index Tag window with the text to index in the **Edited index value** field.
6. Use the default code page encoding or select an encoding from the drop-down list if the text displays incorrectly.
7. Type a descriptive name for the index tag in the **Index tag name** field. For example, if you select "Joe Smith" for the index tag, the name could be "Customer name".
8. Click **Page within page group** for the index type.
   You see the **Select index value type** and **Select page definition** fields.
9. Select the index value type:

   AFP file

   The index value is displayed in the **Edited index value** field. Decide whether you want to use the entire text value as the page-level index or only part of the text. You can edit the text block to reduce the number of characters you use for the index value (you cannot increase the characters in a text block). To select part of the text as the index tag:

   1. Click **Edit index value**.
   2. Edit the index value in the Edit Value window. For example, if the account number is one text block, "01-345678", you can create an index value with part of the account number, such as "345678".
   3. Click **OK**.

   User defined

   The **User defined value** field is displayed. Type the text you want for the index tag.
10. Select an existing page definition from the drop-down list.
11. Click the **Advanced** tab to change the threshold to look for a text value that is in slightly different positions on some pages. You can select a range from 1/100 to 1 inch or from 1 to 25 millimeters. Although text might appear to be present in the same location on each page, slight position variations can occur in the AFP file. The threshold defines how far the text can be from the original location and be considered an index tag. For example, a threshold value of 12 indicates that the index tag can be located within .12 of an inch or 12 millimeters, either vertically or horizontally. Usually the default threshold value is sufficient (10 for inches or 2 for millimeters).

    Keep in mind that if you increase the threshold above the default value, you might create an index tag you did not expect because the match is only done on location, so the first text block found in the threshold range is used as the index tag.
12. Click **OK**.
13. Verify that the correct index tag has been created:

    1. Right-click on the page in the left pane and click **Properties**.
       The name of the index tag and its value are listed in the TLE field.
    2. To close the Properties window, click **X** in the upper right corner.
    3. If the index tag is incorrect, click **Tools** → **Modify Definitions** to modify or delete the tag. Page-level indexes are listed under **Page Group Definition** → **Page Definition** → **Page Indexes**.

Copying or moving page-level indexes to page groups

You can copy or move all page-level index tags to a page group. Page-level index tags are found on a page in the AFP file, but at the page level instead of the page-group level.

You can see what index tags are on a page by displaying the properties for the page. The name of an index tag and its value are listed in the TLE field.

To copy or move page-level index tags so they are added to the page group:

1. In AFP Visual Environment, open a sample AFP file. Then click **Mode** → **AFP Indexer**.
2. Select a page that is within a page group.
3. Click **Tools** → **Index Tools** → **Relocate Page Indexes to Page Groups**.
   You see the Copy Page Indexes to Page Group window. The **Current Page** field displays the page you selected in the page group.
4. From the drop-down list, select which page-level index tags you want to add to the page group:

   This page

   Adds all the page-level index tags from the current page to the page group. For example, if "5" is the current page, adds all the index tags from page 5 to the page group for each page group in the file that contains a page 5.

   This and following pages

   Adds all the page-level index tags from the current page, and all pages that follow the current page, to the page group. For example, if "3" is the current page and "5" is the last page in the page group, all the index tags on page 3, page 4, and page 5 are added to the page group for each page group in the file that contains those pages.

   Last page

   Adds all the page-level index tags from the last page to the page group.
5. To move the page-level index tags to the page group, clear the **Keep indexes in page** field. Otherwise, the page-level index tags are copied to the page group.
6. Click **OK**.
   In the bottom pane, you see the index tags that have been added to the page groups.
7. Optional: To remove the index tags that you added to a page group:
   1. Click **Tools** → **Index Tools** → **Relocate Page Indexes to Page Groups**.
      You see the Copy Page Indexes to Page Group window with the selections you previously made.
   2. Click **Delete**.
      The index tags are removed from the page group.

Modifying or deleting AFP Indexer definitions

After you create triggers and index tags for page groups, pages in page groups, and supplemental pages, you can modify or delete any of them.

Modifying triggers

You can modify page group, supplemental page, and page-level trigger definitions. When you modify a trigger, the boundaries of the page groups might change.

Note

- Be careful modifying triggers if you have made other enhancements to the sample AFP file. For example, if you have created index tags and you modify the page group triggers, the index tags might become invalid. In addition, other types of definitions in the control file (for example, barcodes created with AFP Editor) might not work properly if they are based on the page groups or index tags created with AFP Indexer.
- In AFP Visual Environment you can display measurement units in inches or millimeters. To change the measurement unit, click **View** → **Units**.

To modify a trigger definition:

1. In AFP Visual Environment, open a sample AFP file and the control file that contains the definitions for the triggers. Then click **Mode** → **AFP Indexer**.
2. Click **Tools** → **Modify Definitions**.
   You see the Modify and Delete Definitions window.
3. Select the name of the trigger that you want to modify.
4. Click **Modify**, or double-click.
   You see the Modify Trigger window.
5. To edit the trigger value, click **Edit trigger**. Edit the trigger value in the Edit Value window and click **OK**.
6. Click the **Advanced** tab to change the text threshold, the method for matching the trigger, or both:
   - Select a range from 1/100 to 1 inch or from 1 to 25 millimeters for the text threshold.
   - Select the method used to match the trigger–on the trigger string value and the text block position, or on the position only.
7. Click **OK**.
   In the left pane and in the bottom pane, you see the page groups that have been defined based on the trigger value. You also see the pages that are included in each page group.
8. To close the Modify and Delete Definitions window, click **X** in the upper right corner.

Deleting triggers

You can delete page group, supplemental page, and page-level trigger definitions. When you delete a trigger, the boundaries of the page groups might change.

Note

Be careful deleting triggers if you have made other enhancements to the sample AFP file. For example, if you have created index tags and you delete the page group triggers, the index tags might become invalid. In addition, other types of definitions in the control file (for example, barcodes created with AFP Editor) might not work properly if they are based on the page groups or index tags created with AFP Indexer. If you delete the last trigger defined in the control file, any page groups that are defined in the AFP file itself are displayed in the left pane.

To delete a trigger definition:

1. In AFP Visual Environment, open a sample AFP file and the control file that contains the definitions for the triggers. Then click **Mode** → **AFP Indexer**.
2. Click **Tools** → **Modify Definitions**.
   You see the Modify and Delete Definitions window with trigger and index tag definitions.

   Note

   You can only delete trigger definitions that exist in the control file. If page groups are displayed in the left pane but no trigger definitions are listed in the Modify and Delete Definitions window, the page groups are defined in the AFP file itself. To remove page groups that are defined in the AFP file, create a new page-group trigger or create fixed-length page groups. This automatically removes any page groups defined in the AFP file. To remove nested page groups that are defined in the AFP file, click **Tools** → **Other Page Groups** → **Use Existing Page Groups**.
3. Select the trigger that you want to delete.
4. Click **Delete**, or press the Delete key on your keyboard.
   You see a message that asks if you want to continue.
5. Click **Yes**.
   The trigger is removed from the definitions list.
6. To close the Modify and Delete Definitions window, click **X** in the upper right corner.

Modifying index tags for text blocks

You can modify the index tags for AFP text blocks that were created with AFP Indexer, including page group indexes, page-level indexes, NOP indexes, and supplemental page indexes.

Note

In AFP Visual Environment you can display measurement units in inches or millimeters. To change the measurement unit, click **View** → **Units**.

To modify an index tag for a text block:

1. In AFP Visual Environment, open a sample AFP file and the control file that contains the definitions for the index tags. Then click **Mode** → **AFP Indexer**.
2. Click **Tools** → **Modify Definitions**.
   You see the Modify and Delete Definitions window with index tags.

Note

You can only modify index tags that exist in the control file. If index tags are displayed in the bottom pane but not in the Modify and Delete Definitions window, the index tags exist in the AFP file itself and you cannot modify them.

3. Select the index tag that you want to modify.
4. Click **Modify**, or double-click.
   You see the Modify Index Tag window, Modify Page Index Tag window, or Modify Supplemental Page Index Tag window, depending on which type of index tag you are modifying.
5. To change the name of the index tag, type a new name in the **Index tag name** field.
6. To change the code page encoding, select an encoding from the drop-down list.

   This field is not displayed for NOP index tags.
7. To edit the index value, click **Edit index value**. Edit the index value in the Edit Value window and click **OK**.
8. Click the **Advanced** tab, if present, to change the text threshold to look for a text value that is in slightly different positions on some pages.

   You can select a range from 1/100 to 1 inch or from 1 to 25 millimeters.

   Keep in mind that if you increase the threshold above the default value, you might create an index tag you did not expect because the match is only done on location, so the first text block found in the threshold range is used as the index tag.
9. Click **OK**. You see the index tags listed in the bottom pane for each page group.
10. To close the Modify and Delete Definitions window, click **X** in the upper right corner.

Modifying index tags in areas

You can modify the index tags that you created for page group or supplemental page areas.

Note

In AFP Visual Environment you can display measurement units in inches or millimeters. To change the measurement unit, click **View** → **Units**.

To modify index tags in an area:

1. In AFP Visual Environment, open a sample AFP file and the control file that contains the definitions for the index tags. Then click **Mode** → **AFP Indexer**.
2. Click **Tools** → **Modify Definitions**.
   You see the Modify and Delete Definitions window with index areas.
3. Select the index area that you want to modify.
4. Click **Modify**, or double-click.
   You see the Modify Index Tags in an Area window.
5. To change the characters that separate the text blocks, specify the new character or characters in the **Character between text blocks** field.

The default character that separates text blocks is one blank. If you want to concatenate the text in multiple text blocks, delete the blank from the field.
In the **Lines in the area** field you see the text with the character that you specified (if any) shown between the text blocks.

6. To add an index tag for a specific line in the area:

   1. Click **Add**.
      You see the Create Index Tag window.
   2. Use the default code page encoding or select an encoding from the drop-down list if the text displays incorrectly.
   3. Type a descriptive name for the index tag.
   4. Select the line that contains the text you want to index:

      - To select the first line or a line relative to the first line, click **First line**. Then use the drop-down list for this field to select a relative line. For example, select **First line plus 1**.
      - To select the last line or a line relative to the last line, click **Last line**. Then use the drop-down list for this field to select a relative line. For example, select **Last line minus 1**.

      You see the value of the index tag in the **Edited value** field.
   5. Decide whether you want to use the entire text value to create the index tag or only part of the text. To select part of the text as the index tag, click **Edit index value**. Edit the index value in the Edit Value window and click **OK**.
   6. Clear the **Create tag for an empty value** field if you do not want AFP Indexer to create index tags with null values.

      Otherwise, an index tag contains the value "null" if the text that you indexed does not exist in a particular page group or supplemental page. For example, if a page group has an address that does not contain a country name, the index tag for country name is "null" for that page group.
   7. Click **OK**.
      You see the index tag and the index tag value in the **Index tags for specific lines** field.

7. To change or delete an existing index tag for a specific line in the area, click the index tag in the **Index tags for specific lines** section (use the **CTRL** key to select more than one index tag) and do one of these:

   - Click **Modify**. Make changes to the index tag in the Modify Index Tag window and then click **OK**.
   - Click **Delete** to remove all index tags you selected.

8. To adjust the origin and size of the address area, click the **Position** tab.

   Decimal values (such as 2.5) are allowed.

   Note

   If you rotated the AFP file using the **Rotate by 90°** option on the **View** menu, measure the X and Y positions from the top-left corner of the logical page in the unrotated view.

9. Click **OK**. You see the index tags listed in the bottom pane for each page group.
10. To close the Modify and Delete Definitions window, click **X** in the upper right corner.

Modifying index tags in address areas

You can modify the index tags that you created for page group or supplemental page address areas.

Note

In AFP Visual Environment you can display measurement units in inches or millimeters. To change the measurement unit, click **View** → **Units**.

To modify index tags in an address area:

1. In AFP Visual Environment, open a sample AFP file and the control file that contains the definitions for the index tags. Then click **Mode** → **AFP Indexer**.
2. Click **Tools** → **Modify Definitions**.
   You see the Modify and Delete Definitions window with address indexes.
3. Select the address index that you want to modify.
4. Click **Modify**, or double-click.
   You see the Modify Index Tags in an Address Area window.
5. To change the characters that separate the text blocks, specify the new character or characters in the **Character between text blocks** field.

   The default character that separates text blocks is one blank. If you want to concatenate the text in multiple text blocks, delete the blank from the field.
   In the **Index tags for intermediate lines** field you see the text with the character that you specified (if any) shown between the text blocks.
6. To add an index tag for a specific line in the address area:

   1. Click **Add**.
      You see the Create Index Tag window.
   2. Use the default code page encoding or select an encoding from the drop-down list if the text displays incorrectly.
   3. Type a descriptive name for the index tag.
   4. Select the line that contains the text you want to index:

      - To select the first line or a line relative to the first line, click **First line**. Then use the drop-down list for this field to select a relative line. For example, select **First line plus 1**.
      - To select the last line or a line relative to the last line, click **Last line**. Then use the drop-down list for this field to select a relative line. For example, select **Last line minus 1**.
   5. Decide whether you want to use the entire text value to create the index tag or only part of the text. To select part of the text as the index tag, click **Edit index value**. Edit the index value in the Edit Value window and click **OK**.
      You see the value of the index tag in the **Edited value** field.
   6. Clear the **Create tag for an empty value** field if you do not want AFP Indexer to create index tags with null values.

      Otherwise, an index tag contains the value “null” if the text that you indexed does not exist in a particular page group or supplemental page. For example, if a page group has an address

that does not contain a country name, the index tag for country name is "null" for that page group.

7. Click **OK**.
   You see the index tag and the index tag value in the **Index tags for specific lines** field.

7. To change or delete an existing index tag for a specific line in the address area, click the index tag in the **Index tags for specific lines** section (use the **CTRL** key to select more than one index tag) and do one of these:
   - Click **Modify**. Make changes to the index tag on the Modify Index Tag window and then click **OK**.
   - Click **Delete** to remove all index tags you selected.
8. Do one of these to specify whether lines in the **Index tags for intermediate lines** field are indexed:
   - Click **Index intermediate lines** and specify an index tag name to create index tags for intermediate lines.
   - Clear **Index intermediate lines** to delete the index tags for intermediate lines.
9. To specify whether an index tag is created for a ZIP Code in the U.S. Postal Service format (*nnnnn* or *nnnnn-nnnn*), click the **ZIP Code** tab and do one of these:
   - Type an index tag name or update the existing name to create an index for the ZIP Code. Clear the **Create tag for an empty value** field if you do not want AFP Indexer to create an index tag with a "null" value.
   - Delete the name of the index tag in the **Name** field to delete the ZIP Code index.
10. Click the **Position** tab to adjust the origin and size of the address area. Decimal values (such as 2.5) are allowed. Specify the values in inches or millimeters.

    Note

    If you rotated the AFP file using the **Rotate by 90°** option on the **View** menu, measure the X and Y positions from the top-left corner of the logical page in the unrotated view.
11. Click **OK**. You see the index tags listed in the bottom pane for each page group.
12. To close the Modify and Delete Definitions window, click **X** in the upper right corner.

Deleting index tags

You can delete all index tags that were created with AFP Indexer, including page group, supplemental page, page-level, and NOP index definitions. You can also delete index tags that were created for specific lines in index areas and address areas, and intermediate lines and ZIP Codes in address areas.

Note

Be careful deleting index tags if you have made other enhancements to the sample AFP file that depend on the index tags. For example, do not delete an index tag if you used AFP Editor to create a barcode that contains the index tag value.

To delete an index tag:

1. In AFP Visual Environment, open a sample AFP file and the control file that contains the definitions for the index tags. Then click **Mode** → **AFP Indexer**.
2. Click **Tools** → **Modify Definitions**.
   You see the Modify and Delete Definitions window with index tags.

   Note

   You can only delete an index tag that is defined in the control file. If index tags are displayed in the bottom pane but not in the Modify and Delete Definitions window, the index tags are defined in the AFP file itself. To delete all the index tags that are defined in the AFP file, click **Tools** → **Other Page Groups** → **Use Existing Page Groups**.
3. To delete an index tag that was created for a line in an index area or address area, or a ZIP Code in an address area:
   1. Select the index name for an index area or address area, and then click **Modify**.
      You see the Modify Index Tags in an Area window or Modify Index Tags in an Address Area window. Do one or more of these:
      - To delete the index tags for specific lines, select the index tag in the **Index tags for specific lines** section (use the **CTRL** key to select more than one index tag) and click **Delete**. The index tag is removed from the list.
      - To delete the index tags for intermediate lines in an address area, clear the **Index intermediate lines** field.
      - To delete the index tag for a ZIP Code in an address area, click the **ZIP Code** tab and remove the name of the index tag in the **Name** field.
   2. Click **OK**.
      The index tags are removed from the list in the bottom pane.
4. To delete an index tag definition, including all index tags created for an index area or address area:
   1. Select the index definition you want to delete.
   2. Click **Delete** or press the Delete key on your keyboard.
      The index tag definition is removed from the definitions list and, if it was a page group index, from the bottom pane.
5. To close the Modify and Delete Definitions window, click **X** in the upper right corner.

Using existing page groups and index tags

If page groups and index tags are defined in the AFP file instead of a AFP Visual Environment control file, you can choose whether to use the existing page groups in the AFP file and, if the page groups are nested, which level of page groups to use.

You can also choose whether to use the existing index tags. If you do not tell AFP Indexer whether to use existing page groups and index tags, all existing page groups and index tags are used unless you create new page groups.

In most cases, if an AFP file contains page groups, you should use them. If you use the existing page groups, you cannot change the page group boundaries. However, you can create additional index tags and modify existing tag values.

Note

Be cautious about changing which level of existing page groups to use if you have made enhancements to the sample AFP file. For example, if you have created page groups or index tags, the page groups might change or the index tags might be invalid. In addition, other types of definitions in the control file (for example, barcodes created with AFP Editor) might not work properly if they are based on the page groups or index tags created with AFP Indexer.

To use existing page groups and index tags:

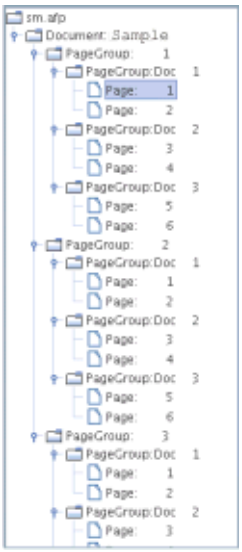
1. In AFP Visual Environment, open a sample AFP file. Then click **Mode** → **AFP Indexer**.
2. Click **Tools** → **Other Page Groups** → **Use Existing Page Groups**.

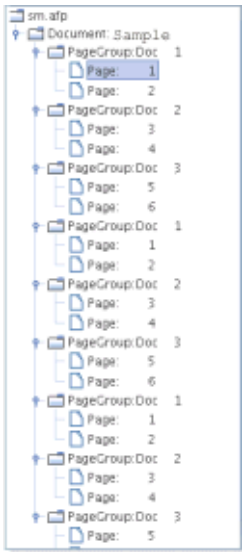
   You might see a message that says the page groups and indexes might change or be invalid and asks if you want to continue. Click **Yes**. You see the Use Existing Page Groups window.
3. In the **Use page group level** field, select a number, 0 to 20, for the levels in the page group structure that you want to keep.

   Note

   To keep all page groups, select **0**. Select a number greater than 0 only if you have nested page groups.

   For example, the first figure shows a page group structure with two levels. To keep the page groups in all of the levels, select **0**. However, to keep only the page groups in the second level (and any levels below it), select **1**. The second figure shows the new page structure after you select **1**.





4. To remove the index tags that are defined in the AFP file, clear the **Use index tags** box.
5. Click **OK**.
   You see the page groups and index tags that you chose to use in the AFP file.

Editing text for triggers and index tags

When you create or modify a trigger or an index tag, you can edit the text value. You can also edit the text value for existing index tags that are defined in the AFP file or the AFP Visual Environment control file.

You might want to edit the text value to remove any leading or trailing blanks, or to remove unwanted special characters. When you edit a text value, make sure that you edit it so that it is appropriate for all page groups because the text values can be different in each page group.

To edit the text for a trigger or index tag:

1. In AFP Visual Environment, open a sample AFP file. Then click **Mode** → **AFP Indexer**.
2. Do one of these to open the Edit Value window:
   - Click **Tools** → **Index Tools** → **Edit Existing Indexes**. Select an index tag from the drop-down list and click **Edit**.
   - When creating or modifying a trigger or index tag, click one of these: **Edit index value**, **Edit trigger**, or **Edit value**.
3. Select **On** for one or more of these options:

Edit by stripping characters	Type one character or a blank that you want to remove from the value. Remember that the character is case-sensitive. Then, select one of these buttons: **Strip leading characters** The specified character is removed from the beginning of the value. For example, if you type a blank character, all blanks are removed from the beginning of the value. **Strip trailing characters** The specified character is removed from the end of the value. For example, if you type a blank character, all blanks are removed from the end of the value. **Strip leading and trailing characters** The specified character is removed from the beginning and end of the value. For example, if you type a blank character, all blanks are removed from the beginning and end of the value. **Strip all characters** The specified character is removed from all positions in the value. For example, an account number is: 324-1443255-11. You can type a - to strip all - characters from the value.
Edit on delimiter	Type a text string of one or more characters or blanks in the **Specify delimiter string** field to indicate where the text value is split into separate strings. Remember that the text is case-sensitive. Then select numbers for **Select first string** and **Select number of strings** to mark the beginning and end of the edited text. For example, an account number is: 324-1443255-11. You can use - as the delimiter to split the value into these three strings: 324, 1443255, and 11. To select the second and third strings, 1443255-11, select **2** for both **Select first string** and **Select number of strings**.
Edit on character	Select numbers for **Select first character position** and **Select number of characters** to indicate the first character in the text value and how many characters are included.

When you select the options in the window, the text value for the current page group, page in a page group, or supplemental page is edited based on your selections and the new value is displayed in the **Edited text** field.

Note

The edit options are done in this order:

1. Edit by stripping characters
2. Edit on delimiter
3. Edit on character

4. Click **OK**.
You see one of these:

- If you are creating or modifying a trigger or index tag, the new value is displayed in one of these fields: **Edited index value**, **Edited trigger**, or **Edited value**.
- If you are editing an existing index tag, you see an asterisk (*) next to the index tag that you edited. You also see that **Delete** is now displayed in the window.

  Do this:

  1. Optional: To undo the edit you did to the index tag, click **Delete**. The index tag reverts to the original text and the asterisk (*) is removed from the drop-down list. **Delete** is not displayed in the window if the drop-down list does not have any asterisks.
  2. Click **OK**.

Managing comments

You can manage comments in the AFP Indexer portion of the AFP Visual Environment control file.

To manage comments:

1. In AFP Visual Environment, open a sample AFP file.
2. Click **Mode** → **AFP Indexer**.
3. Click **Tools** → **Manage Comments**.

   You see a list of comments, if any, in the AFP Indexer portion of the AFP Visual Environment control file.
4. To add a comment:

   1. Click **Add Comment**.
   2. Type the text of the comment.
   3. Click **OK**.
5. To delete a comment:

   1. Click the text of the comment.
   2. Press the Delete key on your keyboard.
6. When you finish managing comments, click **OK**.
7. Save the control file.

   AFP Visual Environment puts each comment inside `<Comment></Comment>` tags near the top of the AFP Indexer portion of the control file.

5. Editing AFP files

- **Creating barcodes**
- **Replacing POSTNET barcodes with IMBs**
- **Creating IMB serial number files**
- **Creating conditions between barcode definitions**
- **Creating hidden areas**
- **Creating text with AFP Editor**
- **Defining text masks**
- **Modifying or deleting AFP Editor definitions**

AFP Editor can create barcodes and text, hide areas, and mask text in AFP files. In addition, AFP Editor can replace existing POSTNET barcodes with Intelligent Mail barcodes (IMBs). If you want AFP Editor to use sequential serial numbers in IMBs, you must create an IMB serial number file.

Creating barcodes

AFP Editor lets you create barcodes in AFP files.

The barcode must be in a consistent position on every page and must be a consistent size. If text, an image, or another barcode already exists in the area where you want to create a barcode, first hide the area so that the existing text, image, or barcode does not print.

To determine the exact origin and size of the barcode area, work from a copy of the sample AFP file printed on the production printer. Measure where you want to place the top-left corner of the barcode area (X and Y positions) on the printed page from the top-left corner of the logical page. For BCOCA barcode objects, also measure the width and height of the area.

Note

In AFP Visual Environment you can display measurement units in inches or millimeters. To change the measurement unit, click **View** → **Units**.

To create a barcode:

1. In AFP Visual Environment, open a sample AFP file.
2. If the file does not contain page groups or index tags for variable values (such as ZIP Codes) that you want to use in barcode data, use AFP Indexer to create page groups and index tags.
3. Click **Mode** → **AFP Editor**.
4. Navigate to the page where you want to create the barcode:
   - To place a barcode on the same page in every page group, navigate to that page in any page group.
   - To place a barcode on multiple pages (for example, on even pages in every page group), navigate to one of the pages in any page group.
5. Position your cursor at a corner of the barcode area. While pressing the left mouse button, draw a box the approximate size of the barcode area. You can draw a horizontal, vertical, or square box.

   In a later step, you can specify the exact position and size of the barcode area.
6. Right-click anywhere in the AFP file and click **Create barcode**.

   You see the Create Barcode window.

7. On the **Type** tab, type a name for the area, select the type, and specify other properties.

   For a description of the fields, see the information center topic about the Type tab.

8. On the **Data** tab, specify the data to be encoded in the barcode symbol.

   For a description of the fields, see the information center topic about:

   - Data tab for Code 39, Data Matrix, Interleaved 2-of-5, PDF417, POSTNET, and QR Code barcodes
   - Data tab for IMBs

9. On the **Position** tab, specify the exact origin and size of the barcode area, the orientation of the barcode symbol within the area, and on which pages to place the barcode in each page group.

   For a description of the fields, see the information center topic about the Position tab.

10. Click **OK**.

    If you have more than one barcode defined, you might see the Create Conditions between Definitions window. Click **Yes** if you want to create a condition for determining which barcode is used, and then click **OK**.

    If you created an Intelligent Mail barcode (IMB), POSTNET, or QR Code barcode, you see the barcode symbol in the AFP file. If you created a Code 39, Data Matrix, Interleaved 2-of-5, or PDF417 barcode, you see a box surrounding the barcode area with the title of the barcode area in the orientation that you selected for the barcode symbol.

    Note

    If you created a text IMB but do not see the barcode symbol, identify the resource directory that contains the AFP IMB font to AFP Visual Environment (**Resources** → **Specify Resource Directories**). The AFP IMB font (character set C0XMUS23) is installed in the *install_directory*/resources directory.

11. If you see an error message, the barcode is not created in any page group. In addition, no other barcodes, hidden areas, or text masks are created. If the Create Barcode window is open, correct the barcode properties. If the Create Barcode window is already closed, click **Tools** → **Modify Definitions** to correct the properties.

    (In the Modify and Delete Definitions window, ⊗ identifies the barcode with the error.)

    If you included index tag values in the barcode data and the error message indicates that barcode data is too long or contains characters that are not valid, you might need to modify the index tag to correct the problem.

Type tab

On the **Type** tab, you specify the name of the barcode area, the type of barcode that you want to create, and the properties of the barcode.

Fields on the Type tab

Field	Value	Description
Barcode name	Any combination of a-z, A-Z, 0–9, special characters, and blanks.	The name of the barcode area. For example, if the barcode is an Intelligent Mail barcode (IMB), you could name the barcode "IMB".
Barcode type	Code 39 (3-of-9 Code)	A low-density barcode that can encode uppercase letters, numbers, and some special characters.
	Data Matrix	A two-dimensional (2D) barcode consisting of black and white square modules arranged in either a square or rectangular pattern. This barcode uses the Solomon-Reed error correction algorithm (ECC 200) to ensure data reliability.
	Intelligent Mail (IMB)	A barcode defined by the United States Postal Service (USPS) that is used to direct and track mail. This barcode was previously called a **USPS Four-State** barcode.
	Interleaved 2-of-5	A high-density barcode that can encode numbers.
	PDF417	A two-dimensional (2D) barcode that consists of several rows, each of which is like a small linear barcode. The barcode can detect and correct errors.
	POSTNET	A barcode defined by the USPS that is used to direct mail.
	QR Code	A two-dimensional (2D) matrix barcode that consists of black and white square modules arranged in a square pattern. The contents of this "Quick Response" code can be decoded at high speed. This barcode uses the Solomon-Reed error correction algorithm (ECC 200) to ensure data reliability.
Barcode representation	Output type	
	BCOCA object	AFP Editor creates barcode objects using Bar Code Object Content Architecture (BCOCA) structured fields. In general, BCOCA barcodes are preferred to text barcodes. However, some older printers cannot process newer barcode types. For example, IBM 3900 printers cannot process IMBs. In this case, text barcodes are required. This is the default.
	Text barcode	AFP Editor creates text barcodes that use the AFP barcode font. **Notes:** 1. This option is currently available only for IMBs. 2. AFP Editor uses the 300 dpi AFP IMB font (US23), which produces a standard height barcode: character

Field	Value	Description
		set C0XMUS23 and code page T100USPS. If you create text barcodes, you must install the IMB font in the AFP resource directories that AFP Visual Environment uses. Otherwise, AFP Visual Environment cannot display the barcode symbol.
	Output size	
	Optimal Size	AFP Editor creates BCOCA barcodes so they are displayed in the best size for viewing and printing. This is the default. Note This option is currently available only for IMBs.
	Compact Size	AFP Editor creates BCOCA barcodes so they are displayed in a compact size. Note This option is currently available only for IMBs.

This table describes the fields on the **Type** tab that let you specify barcode properties. The fields differ for each barcode type.

Fields on the Type tab for barcode properties

Barcode type	Field	Description
Code 39 (3-of-9 Code)	Include check digit	A check digit ensures data integrity during the bar coding reading process. If you select **Yes**, a check digit is included in the barcode symbol.
Data Matrix	Number of rows	The number of rows in the barcode including the finder pattern. If you select **Auto**, an appropriate number of rows is used for the amount of data in the barcode symbol.
	Row size	The number of modules in each row including the finder pattern. The row sizes you can select depend on the number of rows. If you select **Auto**, an appropriate row size is used for the amount of data in the barcode symbol.
Intelligent Mail (IMB)	None	None
Interleaved 2-of-5	Include check digit	A check digit ensures data integrity during the bar coding reading process. If you select **Yes**, check digit is included in the barcode symbol.
PDF417	Row size	The number of data symbol characters in each row. The printer creates the minimum number of rows necessary for the amount of data in the barcode symbol.

Barcode type	Field	Description
POSTNET	ZIP Code barcode	The barcode symbol consists of a leading frame bar, the encoded ZIP Code data, a correction digit, and a trailing frame bar. The ZIP Code data is a 5-digit number.
	ZIP Code+4 barcode	The barcode symbol consists of a leading frame bar, the encoded ZIP+4 data, a correction digit, and a trailing frame bar. The ZIP+4 data is a 9-digit number.
	Advanced Bar Code (ABC)	The barcode symbol consists of a leading frame bar, the encoded ABC data, a correction digit, and a trailing frame bar. The ABC data is an 11-digit number.
	Variable-length barcode	The barcode symbol consists of a leading frame bar, the encoded data, a correction digit, and a trailing frame bar. The encoded data is variable length.
QR Code	Size	The size of the barcode symbol, represented by the number of modules in each row and column. The values are 21x21 to 177x177, or "smallest", which indicates the smallest size that can include all data.

Data tab for Code 39, Data Matrix, Interleaved 2-of-5, PDF417, POSTNET, and QR Code barcodes

On the **Data** tab, you specify the data that AFP Editor encodes in the barcode symbol for Code 39, Data Matrix, Interleaved 2-of-5, PDF417, POSTNET, and QR Code barcodes.

Fields on Data tab

Field	Value	Description
Text	Any valid characters for the barcode type (see next table)	The text that you want to encode in the barcode symbol. For example, you could use a blank character to separate multiple index tags. (A blank is not a valid character in all barcode types.) This value is the same in all page groups.
Index tag	An index tag name	The index tag whose value you want to encode in the barcode. For example, you might want to encode a routing code that you previously indexed. The barcodes will contain the value of the index tag in the page group. This value can be different in each page group, but is the same for all pages in a page group.
Property	A property name	The property you want to encode in the barcode. The barcodes will contain the value of the property. This value is the same in all page groups.
Include HRI	Above barcode symbol	Indicates that human-readable interpretation (HRI) is to be printed above the barcode symbol. This field is visible only

Field	Value	Description
		for barcode types that support HRI: Code 39 and Interleaved 2-of-5.
	Below barcode symbol	Indicates that human-readable interpretation (HRI) is to be printed below the barcode symbol. This field is visible only for barcode types that support HRI: Code 39 and Interleaved 2-of-5.
Code page encoding	A defined code page encoding	The code page used to encode the barcode. You can only select an encoding from the drop-down list for QR Code barcodes.

This table shows the characters that are valid for each type of barcode.

Valid characters for barcodes

Barcode type	Valid characters	Total number of characters
Code 39 (3-of-9 Code)	0123456789 ABCDEFGHIJKLM NOPQRSTUVWXYZ - . $ / + % space character	0 to 50 characters
Data Matrix	Any one-byte character, or binary data	0 to 3116 characters
Interleaved 2-of-5	0123456789	0 to 50 characters
PDF417	Any one-byte character, or binary data	0 to 2710 characters
POSTNET	0123456789	The number of digits depends on the barcode property selected on the **Type** tab: • ZIP Code: 5 digits • ZIP Code + 4: 9 digits • Advanced Bar Code (ABC): 11 digits • Variable-length barcode: 0 to *n* digits (barcode receivers support at least 50 digits)
QR Code	Any one-byte character, or binary data	0 to 3116 characters

Data tab for IMBs

On the **Data** tab, you specify the data that AFP Editor encodes in the barcode symbol for Intelligent Mail barcodes (IMBs).

Fields on the Data tab for IMBs

Field	Value	Description
Barcode ID*	00 - 50	Optional Endorsement Line (OEL) sort level and exception handling.
Service type ID*	040 - 782	Type of mail and any mail services requested.
Mailer ID*	0, 6, or 9 digits	A 6 or 9-digit mailer ID obtained from the United States Postal Service (USPS). Note You can use the Mailer ID field for other purposes in an IMB used for reply mail.
Serial number*	A 6 or 9-digit serial number that identifies the mailpiece. The length depends on the number of digits specified for mailer ID. The mailer ID and serial number together can contain 15 digits. Note AFP Editor adds leading zeroes to the value in this field so that the value in the **Mailer ID** and **Serial number** fields together contain 15 digits.	
	Zeroes	AFP Editor creates a serial number that contains zeroes. Mailers who use only the USPS "Basic services" option can use serial numbers with zeroes.
	Index tag	The name of an index tag that contains the serial number.
	File name	The full path name of an IMB serial number file that contains the serial number to be encoded in the first barcode in the AFP file. AFP Editor increments the serial number in the file by 1 for each barcode.
Routing code*	The routing code (also called **routing ZIP Code** and **delivery point ZIP Code**) of the recipient of the mailpiece. The routing code, if one is specified, can contain 5, 9, or 11 digits.	
	Index tag	The name of an index tag that contains the routing code. If blank, AFP Editor does not include a routing code in the barcode. Note AFP Editor removes any non-numeric characters from the value in the index tag before encoding it in the barcode symbol. For example, if the value of the index tag in a page group is "12345–6789", the value in the barcode symbol is "123456789".
Create index tag	Save	Indicates that AFP Editor is to create an index tag that contains the data encoded in the IMB in the page group. This option provides a record of the IMB data that you can use to retrieve a mailpiece if, for example, the USPS reports an address change for the mailpiece.

Field	Value	Description
	Index tag name	The name to assign to the index tag that contains the IMB data. Any combination of a-z, A-Z, 0–9, special characters, and blanks.
*For more information about the values for these fields, see the *Intelligent Mail® Barcode Technical Resource Guide*.		

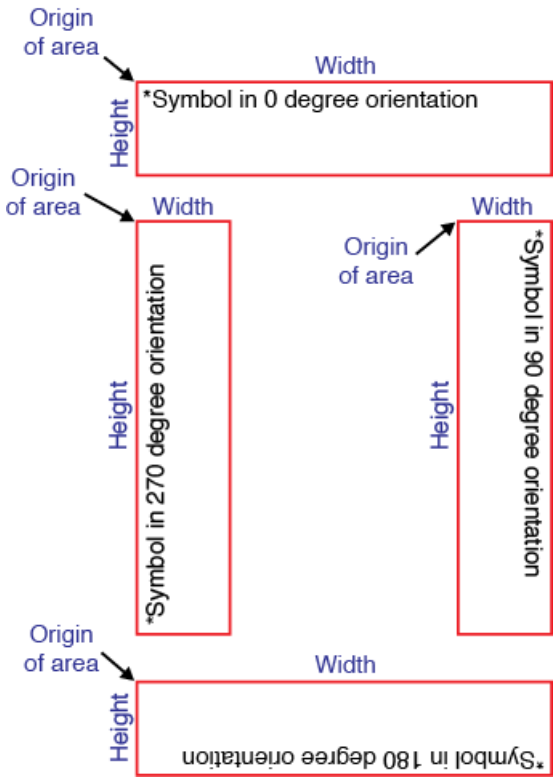
Position tab

On the **Position** tab, you specify the exact origin (top-left corner) and size (width and height) of the barcode area, and the orientation of the barcode symbol within the barcode area. You can also specify on which pages in each page group to place the barcode.

This figure shows four barcode areas with different orientations (0, 90, 180, 270 degrees) of the barcode symbol. It also shows the barcode area origin, width, and height that you specify on the **Position** tab for each area.

5

Barcode areas with four orientations of barcode symbol



In the figure, the asterisk (*) indicates the origin of the barcode symbol. AFP Editor automatically determines the origin of the barcode symbol. The barcode symbol origin is different for each orientation:

Orientation of symbol	Origin of symbol
0 degrees	Top-left corner of barcode area
90 degrees	Top-right corner of barcode area
180 degrees	Bottom-right corner of barcode area
270 degrees	Bottom-left corner of barcode area

Note

When you create BCOCA objects, the barcode area must be large enough to contain the largest barcode symbol and human-readable interpretation (HRI), if any, in each page group. If any part of the barcode symbol or HRI extends outside of the barcode area, the printer reports an exception and does not print the barcode correctly. When you create text IMBs, the size of the barcode area is ignored.

Fields on the Position tab

Field	Value	Description
Origin of area: X position	Any decimal value, such as 2.5. The X position cannot be greater than the width of the page.	The horizontal distance (in inches or millimeters) of the left side of the barcode area measured from the left side of the logical page (not the physical sheet of paper). Note If you rotated the AFP file using the **Rotate by 90°** option on the **View** menu, specify the X position from the top-left corner of the logical page in the unrotated view.
Origin of area: Y position	Any decimal value, such as 2.5. The Y position cannot be greater than the height of the page.	The vertical distance (in inches or millimeters) of the top of the barcode area measured from the top of the logical page (not the physical sheet of paper). Note If you rotated the AFP file using the **Rotate by 90°** option on the **View** menu, specify the Y position from the top-left corner of the logical page in the unrotated view.
Size of area: Width	Any decimal value, such as 2.5. The width of the area cannot be greater than the width of the page.	The horizontal width (in inches or millimeters) of the barcode area measured in the unrotated view. Note This field applies only to BCOCA objects. It is ignored for text barcodes.
Size of area: Height	Any decimal value, such as 2.5. The height of the area cannot be greater than the height of the page.	The vertical height (in inches or millimeters) of the barcode area measured in the unrotated view. Note This field applies only to BCOCA objects. It is ignored for text barcodes.

Field	Value	Description
Orientation	0 degrees	The barcode symbol is not rotated in the barcode area.
	90 degrees	The barcode symbol is rotated 90 degrees in the barcode area.
	180 degrees	The barcode symbol is rotated 180 degrees in the barcode area.
	270 degrees	The barcode symbol is rotated 270 degrees in the barcode area.
Origin of barcode symbol: X position	A decimal value.	The horizontal distance (in inches or millimeters) of the origin of the barcode symbol measured from the left side of the logical page (not the physical sheet of paper). AFP Editor automatically calculates this value.
Origin of barcode symbol: Y position	A decimal value.	The vertical distance (in inches or millimeters) of the origin of the barcode symbol measured from the top of the page. AFP Editor automatically calculates this value.
Placement of area	Page *n*	The barcode is placed on page *n* of each page group. *n* is the number of the page where you drew the barcode area.
	Multiple pages: All pages	The barcode is placed on all pages in each page group.
	Multiple pages: Even pages	The barcode is placed on the even pages in each page group (pages 2, 4, 6,...).
	Multiple pages: Odd pages	The barcode is placed on the odd pages in each page group (pages 1, 3, 5,...).

Replacing POSTNET barcodes with IMBs

You can replace POSTNET barcodes in AFP files with Intelligent Mail barcodes (IMBs). When you replace POSTNET barcodes, AFP Editor deletes the POSTNET barcodes and creates IMBs that contain the same routing codes as the POSTNET barcodes.

POSTNET barcodes can be in a fixed location in the AFP file or, in the case of a multiple line address, they might float between lines. You can select the actual location of the POSTNET barcode that you want replaced, or you can select an area in which you think the barcode is located.

AFP Editor can automatically place the IMBs in exactly the same position as the POSTNET barcodes they replace. The position of the POSTNET barcodes can vary slightly in different page groups. The position of any POSTNET barcode can be up to .4 inches or 10 millimeters higher or lower than the position of the particular POSTNET barcode that you replaced in the sample AFP file. (This allows for variations in the position of the POSTNET barcode in different page groups because of variable length addresses.)

If you do not want to place the IMBs in the same position as the POSTNET barcodes they replace, you can specify a new position for the IMBs. If you specify a new position, AFP Editor places all IMBs in the exact position that you specify.

To determine the new position of the IMBs, work from a copy of the sample AFP file printed on the production printer. Measure where you want to place the top-left corner of the barcode area (X and Y positions) on the printed page from the top-left corner of the logical page.

Note

- In AFP Visual Environment you can display measurement units in inches or millimeters. To change the measurement unit, click **View** → **Units**.

To place the IMB in the same position as the Address Change Service (ACS) data and PLANET barcode, use AFP Editor to create a hidden area to cover the ACS data and PLANET barcode before you replace the POSTNET barcode.

Note

- You can replace POSTNET barcodes that are on logical pages in the AFP file. However, you cannot replace POSTNET barcodes that are part of page segments or overlays.

To replace a POSTNET barcode with an IMB:

1. In AFP Visual Environment, open a sample AFP file.
2. If the file does not contain page groups, use AFP Indexer to create page groups.
3. Click **Mode** → **AFP Editor**.
4. Navigate to the page that contains one of the POSTNET barcodes.
5. **Optional:** To place the IMB in the same position as a PLANET barcode, create a hidden area that covers the PLANET barcode and any other data that you do not want to print, such as ACS data.
6. Do one of these:
   - Select the POSTNET barcode.
   - Position your cursor at a corner of the area that contains the POSTNET barcode. While pressing the left mouse button, draw a box that includes the barcode.
7. Right-click anywhere in the AFP file and then click **Replace POSTNET with IMB**.

   Note

   - If you do not see the **Replace POSTNET with IMB** option and the POSTNET barcode is a text barcode, identify the directory that contains the POSTNET font to AFP Visual Environment (**Resources** → **Specify Resource Directories**). If you still do not see the **Replace POSTNET with IMB** option, try changing the default code page to another code page (**Resources** → **Modify Default Encoding**).
   - If you see an error message instead of the Replace Barcode window, AFP Editor could not find any POSTNET data in the area you selected.
8. On the **Type** tab, type a descriptive name for the IMB and specify the representation of the IMB.

   See Type tab for IMBs, p. 106 for a description of the fields.
9. On the **Data** tab, specify the data to be encoded in the IMB symbol.

   See Data tab for IMBs, p. 107 for a description of the fields.

10. **Optional:** On the **Position** tab, change the origin of the barcode area or the orientation of the barcode symbol within the area. You can also change on which pages to place the barcode in each page group.

    See Position tab for IMBs, p. 108 for a description of the fields.

11. Click **OK**.
    If you have more than one barcode defined, you might see the Create Conditions between Definitions window. Click **Yes** if you want to create a condition for determining which barcode is used, and then click **OK**.

    You see the IMB in the AFP file.

    Note

    - If the IMB is a text barcode and you do not see the barcode symbol, identify the resource directory that contains the AFP IMB font to AFP Visual Environment (**Resources** → **Specify Resource Directories**). The AFP IMB font (character set C0XMUS23) is installed in the *install_directory*/resources directory.

12. If you see an error message, the barcode is not created in any page group. In addition, no other barcodes, hidden areas, or text masks are created. If the Replace Barcode window is open, correct the barcode properties. If the Replace Barcode window is already closed, click **Tools** → **Modify Definitions** to correct the properties. (In the Modify and Delete Definitions window, identifies the barcode with the error.)

    If you included index tag values in the barcode data and the error message indicates that barcode data is too long or contains characters that are not valid, you might need to modify the index tag to correct the problem.

Type tab for IMBs

On the **Type** tab, you specify the name of the Intelligent Mail barcode (IMB) area and whether to create a BCOCA or text barcode.

Fields on the Type tab

Field	Value	Description
Barcode name	Any combination of a-z, A-Z, 0–9, special characters, and blanks.	The name of the barcode area. For example, you could name the barcode "IMB".
Barcode representation	Output type	
	BCOCA object	AFP Editor creates barcode objects using Bar Code Object Content Architecture (BCOCA) structured fields. In general, BCOCA barcodes are preferred to text barcodes. However, some older printers cannot process newer barcode types. For example, IBM 3900 printers cannot process IMBs. In this case, text barcodes are required.

Field	Value	Description
		This is the default.
	Text barcode	AFP Editor creates text barcodes that use the AFP barcode font. Note AFP Editor uses the 300 dpi AFP IMB font (US23), which produces a standard height barcode: character set C0XMUS23 and code page T100USPS. If you create text barcodes, you must install the IMB font in the AFP resource directories that AFP Visual Environment uses. Otherwise, AFP Visual Environment cannot display the barcode symbol.
	Output size	
	Optimal Size	AFP Editor creates BCOCA barcodes so they are displayed in the best size for viewing and printing. This is the default.
	Compact Size	AFP Editor creates BCOCA barcodes so they are displayed in a compact size.

Data tab for IMBs

On the **Data** tab, you specify the data that AFP Editor encodes in the barcode symbol for Intelligent Mail barcodes (IMBs).

Fields on the Data tab for IMBs

Field	Value	Description
Barcode ID*	00 - 50	Optional Endorsement Line (OEL) sort level and exception handling.
Service type ID*	040 - 782	Type of mail and any mail services requested.
Mailer ID*	0, 6, or 9 digits	A 6 or 9-digit mailer ID obtained from the United States Postal Service (USPS). Note You can use the Mailer ID field for other purposes in an IMB used for reply mail.
Serial number*	A 6- or 9-digit serial number that identifies the mailpiece. The length depends on the number of digits specified for mailer ID. The mailer ID and serial number together can contain 15 digits. Note AFP Editor adds leading zeroes to the value in this field so that the value in the **Mailer ID** and **Serial number** fields together contain 15 digits.	

Field	Value	Description
	Zeroes	AFP Editor creates a serial number that contains zeroes. Mailers who use only the USPS "Basic services" option can use serial numbers with zeroes.
	Index tag	The name of an index tag that contains the serial number.
	File name	The full path name of an IMB serial number file that contains the serial number to be encoded in the first barcode in the AFP file. AFP Editor increments the serial number in the file by 1 for each barcode.
Routing code*	The routing code (also called **routing ZIP Code** and **delivery point ZIP Code**) of the recipient. The routing code, if one is specified, can contain 5, 9, or 11 digits.	
	Index tag	The name of an index tag that contains the routing code. If no index tag name is specified, AFP Editor does not encode a routing code in the IMB. **Note** AFP Editor removes any non-numeric characters from the value in the index tag before encoding it in the barcode symbol. For example, if the value of the index tag in a page group is "12345–6789", the value in the barcode symbol is "123456789".
	POSTNET data	AFP Editor includes the same routing code as in the POSTNET barcode. The routing code in the POSTNET barcode on the current page in the AFP file is displayed.
Create index tag	Save	Indicates that AFP Editor is to create an index tag that contains the data encoded in the IMB in the page group. This option provides a record of the IMB data that you can use to retrieve a mailpiece if, for example, the USPS reports an address change for the mailpiece.
	Index tag name	The name to assign to the index tag that contains the IMB data. Any combination of a-z, A-Z, 0–9, special characters, and blanks.
*For more information about the values for these fields, see the *Intelligent Mail® Barcode Technical Resource Guide*.		

Position tab for IMBs

On the **Position** tab, you can change the origin (top-left corner) of the Intelligent Mail barcode (IMB), the size of the barcode area, and the orientation of the barcode symbol.

When you create BCOCA IMBs, the barcode area must be large enough to contain the largest barcode symbol in each page group. If any part of the barcode symbol extends outside of the barcode area, the printer reports an exception and does not print the barcode correctly.

AFP Editor automatically creates IMBs with the same orientation as the POSTNET barcodes. However, you can select a different orientation for the barcode symbol (0, 90, 180, 270 degrees).

Fields on the Position tab

Field	Value	Description
Origin of area: X position	Any decimal value, such as 2.5. The X position cannot be greater than the width of the page.	The horizontal distance (in inches or millimeters) of the left side of the barcode area measured from the left side of the logical page (not the physical sheet of paper). Note If you rotated the AFP file using the **Rotate by 90°** option on the **View** menu, specify the X position from the top-left corner of the page in the unrotated view.
Origin of area: Y position	Any decimal value, such as 2.5. The Y position cannot be greater than the height of the page.	The vertical distance (in inches or millimeters) of the top of the barcode area measured from the top of the logical page (not the physical sheet of paper). Note If you rotated the AFP file using the **Rotate by 90°** option on the **View** menu, specify the Y position from the top-left corner of the page in the unrotated view.
Size of area: Width	Any decimal value, such as 2.5. The width of the area cannot be greater than the width of the page.	The horizontal width (in inches or millimeters) of the barcode area measured in the unrotated view. If the POSTNET barcode is a BCOCA object, the initial width is the width of the POSTNET barcode area. If the POSTNET barcode is a text barcode, the initial width is the maximum width for IMBs. Note This field applies only to BCOCA barcodes. It is ignored for text barcodes.
Size of area: Height	Any decimal value, such as 2.5. The height of the area cannot be greater than the height of the page.	The vertical height (in inches or millimeters) of the barcode area measured in the unrotated view. If the POSTNET barcode is a BCOCA object, the initial height is the height of the POSTNET barcode area. If the POSTNET barcode is a text barcode, the initial height is the maximum height for IMBs. Note This field applies only to BCOCA barcodes. It is ignored for text barcodes.
Orientation	0 degrees	The barcode symbol is not rotated in the barcode area.
	90 degrees	The barcode symbol is rotated 90 degrees in the barcode area.
	180 degrees	The barcode symbol is rotated 180 degrees in the barcode area.

Field	Value	Description
	270 degrees	The barcode symbol is rotated 270 degrees in the barcode area.
Origin of barcode symbol: X position	A decimal value.	The horizontal distance (in inches or millimeters) of the origin of the barcode symbol measured from the left side of the logical page (not the physical sheet of paper). AFP Editor automatically calculates this value.
Origin of barcode symbol: Y position	A decimal value.	The vertical distance (in inches or millimeters) of the origin of the barcode symbol measured from the top of the logical page (not the physical sheet of paper). AFP Editor automatically calculates this value.
Placement of area	Page *n*	The barcode is placed on page *n* of each page group. *n* is the number of the page where you drew the barcode area.
	Multiple pages: All pages	The barcode is placed on all pages in each page group.
	Multiple pages: Even pages	The barcode is placed on the even pages in each page group (pages 2, 4, 6,...).
	Multiple pages: Odd pages	The barcode is placed on the odd pages in each page group (pages 1, 3, 5,...).

Creating IMB serial number files

If you want Intelligent Mail barcodes (IMBs) to contain a sequential serial number that identifies each mailpiece, you must create a serial number file.

The IMB serial number file contains the serial number that you want to encode in the first IMB that AFP Editor creates in a production AFP file. AFP Editor increments the serial number by 1 in each subsequent IMB so that the serial number is unique.

You can use different IMB serial number files when you create IMBs in a sample AFP file and when you run the **EditAFP** command to create the IMBs in production AFP files. To use a different serial number file for the production AFP files, you specify the name of the serial number file to use for the IMB definition in the -snf option of the **EditAFP** command.

You can create a different IMB serial number file for each barcode that has a unique barcode definition name. For example, if one IMB contains the customer's routing ZIP Code and another IMB contains your company's routing ZIP Code (in a reply address), you can create a separate IMB serial number file for each barcode definition.

To create an IMB serial number file:

1. On the preparation system, create an IMB serial number file.
2. Identify the serial number file with a name of the barcode that the file applies to. For example, if the barcode contains the customer's routing code, you might name the barcode “to-imb” and the serial number file “to-imb-serial”.
3. If the production system is different than the preparation system, use the File Transfer Protocol (**ftp**) to send the serial number file to the production system. Use the **ftp** binary option.

Creating conditions between barcode definitions

When you define more than one barcode, you can create a condition between two barcodes that AFP Editor uses to determine which barcode is created in the AFP file.

You can use conditions to control when a barcode is added to a page group. For example, if some page groups contain POSTNET barcodes and some page groups do not, you might want to add a new barcode to the page groups that do not have one. You can define a new barcode and create a condition so that whenever the POSTNET barcode is not found, the new barcode is added to the page group. Similarly, if you want to replace an existing barcode in all page groups with a new barcode, you can define a condition so that whenever the old barcode is found, it is replaced with the new barcode.

To create a condition between barcode definitions:

1. In AFP Visual Environment, open a sample AFP file.
2. Click **Mode** → **AFP Editor**.
3. Create two barcodes if you do not already have two defined.
4. Do one of these:
   - After the second barcode is defined, click **Yes** when you are asked if you want to create a condition for this definition.
   - Click **Tools** → **Modify Definitions** and then click **Conditions** on the Modify and Delete Definitions window.

   You see the Create Conditions between Definitions window.
5. From the drop-down list, select a barcode in the **Select Definition 1** field.
6. From the drop-down list, select one of these conditions in the **Select Condition** field:
   - **fails, run**: If the first barcode definition cannot be created, use the second definition.
   - **succeeds, run**: If the first barcode definition can be created, use the second definition.
7. From the drop-down list, select a barcode in the **Select Definition 2** field.
8. Click **OK**.
   The condition is created and is listed on the Modify and Delete Definitions window, if it is open. If the Modify and Delete Definitions window is closed, click **Tools** → **Modify Definitions** to see the condition you just defined.
9. To close the Modify and Delete Definitions window, click **X** in the upper right corner.

Creating hidden areas

You can hide areas in AFP files that you do not want to print and that you do not want an AFP viewer to display. For example, you might hide an area that contains a barcode before you create a new barcode in the same place.

The hidden area must be in a consistent position on every page and must be a consistent size. To determine the exact position and size of the hidden area, first print the sample AFP file on the production printer and measure where you want to place the top-left corner of the hidden area on the printed page.

Note

In AFP Visual Environment you can display measurement units in inches or millimeters. To change the measurement unit, click **View** → **Units**.

To create a hidden area:

1. In AFP Visual Environment, open a sample AFP file.
2. If the sample AFP file does not contain page groups, use AFP Indexer to create page groups.
3. Click **Mode** → **AFP Editor**.
4. Navigate to the page where you want to create the hidden area:
   - To place a hidden area on the same page in every page group, navigate to that page in any page group.
   - To place a hidden area on multiple pages, navigate to one of the pages in any page group.
5. Position your cursor at a corner of the hidden area. While pressing the left mouse button, draw a box the approximate size of the hidden area.

   In a later step, you can specify the exact position and size of the hidden area.
6. Right-click anywhere in the AFP file and click **Hide area**.
7. Type a descriptive name for the area in the **Hidden area name** field.

   For example, if the hidden area contains a barcode for a ZIP Code, the name could be "ZIP Code".
8. Select the color of the area in the **Color** field.
9. Specify the exact origin (top-left corner) of the hidden area in these fields. Specify the values in inches or millimeters.

   X position

   The horizontal distance of the left side of the hidden area measured from the left side of the logical page (not the physical sheet of paper). Decimal values (such as 2.5) are allowed. The X position cannot be greater than the width of the page.

   Y position

   The vertical distance of the top of the hidden area measured from the top of the logical page (not the physical sheet of paper). Decimal values (such as 2.5) are allowed. The Y position cannot be greater than the height of the page.

   The initial values of these fields are the X and Y positions of the top-left corner of the box that you drew.

   Note

   If you rotated the AFP file using the **Rotate by 90°** option on the **View** menu, measure the X and Y positions from the top-left corner of the page in the unrotated view.
10. Specify the exact size of the hidden area in these fields. Specify the values in inches or millimeters.

    Width

    The horizontal width of the hidden area. Decimal values (such as 2.5) are allowed. The width of the area cannot be greater than the width of the page.

Height

The vertical height of the hidden area. Decimal values (such as 2.5) are allowed. The height of the area cannot be greater than the height of the page.

The initial values for these fields are the width and height of the box that you drew.

Note

Measure the width and height from the origin of the hidden area in the unrotated view.

11. Select one of these options to place the hidden area:

- **Page *n***: Place the hidden area on page *n* of each page group (*n* is the page where you drew the box for the hidden area). You cannot change this page number. If the page number is incorrect, click **Cancel** and draw the box for the hidden area on the correct page.
- **Multiple pages**: Place the hidden area on:

  All pages

  All pages in each page group

  Even pages

  The even pages in each page group (pages 2, 4, 6,...)

  Odd pages

  The odd pages in each page group (pages 1, 3, 5,...)

12. Click **OK**.
    You do not see any text or image data in the hidden area in each page group.

Creating text with AFP Editor

You can create a string of text on a specified page of each page group in an AFP file and specify its color, font, and size.

For example, you can add page numbers or you can add text so that the information in a barcode is also printed as readable text.

You can create text in an AFP file from:

- Text you enter from the keyboard
- Index tags defined in each page group
- Page number or page count property values

To determine the position of the new text, work from a copy of the sample AFP file printed on the production printer. Measure where you want to place the top-left corner of the text area (X and Y positions) on the printed page from the top-left corner of the logical page.

Note

- In AFP Visual Environment you can display measurement units in inches or millimeters. To change the measurement unit, click **View** → **Units**.

To create text in an AFP file:

1. In AFP Visual Environment, open a sample AFP file.

2. If the file does not contain page groups, use AFP Indexer to create page groups.
3. Click **Mode** → **AFP Editor**.
4. To create an area for the text, position your cursor at a corner of the area you want to create. While pressing the left mouse button, draw a box the size you want.
5. Right-click anywhere in the AFP file and then click **Create Text**.
   You see the Create Text String window.
6. On the **Text** tab, type a descriptive name for the text area in the **Text definition name** field.
7. In the **Text string data** section, create a text string.

   For example, to add the page number, such as "Page 1 of 10", to the first page of each page group:

   1. Type `Page` in the **Text** field and click **Add**.
   2. Select **Page in Page Group** from the **Property** drop-down list and click **Add**. **Page in Page Group** is the number of the page in the page group.
   3. Type `of` in the **Text** field and click **Add**.
   4. Select **Page Group Page Count** from the **Property** drop-down list and click **Add**. **Page Group Page Count** is the total number of pages in the page group.

   You see the text string value in the field below the data fields.
8. **Optional:** To edit the text string, select a line of data and use **Up** or **Down** to change the order of the line or **Remove** to delete the line.

   Remember to add blank characters between words if you need to.
9. **Optional:** Select a color for the text from the **Color** drop-down list.
10. **Optional:** On the **Font** tab, select one of these:

    Core Fonts

    From the drop-down lists, select the character set and code page, and, if the font is an outline font, the point size in the Font Information section.

    External Fonts

    Type a character set and code page pair, a coded font name, or all three. For double-byte character set (DBCS) fonts, use the coded font name only.

    Note

    - If you enter a code page that is part of a DBCS-coded font, you see an error message that suggests you use the coded font name instead.

    You see the **Character Set Description** and **Font Resource** fields change for the font you selected. **Font Resource** is "Outline" for core fonts and "Raster" for external fonts.

    Note

    - On your workstation, if the font size does not exist for the color you selected, your display defaults to 12 black, even though the final AFP file will have the correct font and color.
11. **Optional:** On the **Position** tab, change the origin (top-left corner), size, and orientation of the text area. Specify the origin and size in inches or millimeters. Decimal values (such as 2.5) are allowed. The fields are:

X position

The horizontal distance of the left side of the area measured from the left side of the logical page (not the physical sheet of paper).

Y position

The vertical distance of the top of the area measured from the top of the logical page (not the physical sheet of paper).

Width

The horizontal width of the area.

Height

The vertical height of the area.

Orientation

The number of degrees the text is rotated in the defined area: **0°**, **90°** , **180°**, **270°**

Note

If you rotated the AFP file using the **Rotate by 90°** option on the **View** menu, measure the X and Y positions from the top-left corner of the logical page in the unrotated view.

12. Click **OK**.
    You see the text in the AFP file.
13. Repeat steps **4** to **12** to add text to another page in each page group. For example, select the second page to add "Page 2 of 10" to the second page of each page group.

Defining text masks

You can define text masks to replace specific data with another character. For example, you might need to block out (or **mask**) sensitive information, such as customer names and social security numbers.

The text you want to mask must occur in a consistent location on every page group in the file.

To define a text mask:

1. In AFP Visual Environment, open a sample AFP file that contains the text you want to mask.
2. If the sample AFP file does not contain page groups, use AFP Indexer to create page groups.
3. Click **Mode** → **AFP Editor**.
4. Click the text you want to mask.

   The text blocks you can select are defined in the AFP file, from one character to the entire line of text.
   You see a red box around the text you selected.
5. Right-click the text and select **Create text mask**.
   You see the Create Text Mask window with the default character "x" in the **Mask character** field. In the **Masked value** field, you also see how the selected text is masked with the mask character.
6. Type another mask character if you do not want to use the default character. The value in the **Masked value** field changes to the character you selected.
7. Decide whether you want to mask the entire text value or part of the text.

You can edit the text to reduce the number of characters you mask. For example, if the account number is one text block, *01-345678*, you can mask part of the account number, such as *345678*.

To edit the text mask value, click **Edit mask value**. Edit the value in the Edit Value window and click **OK**.

8. Although text might appear to be present in the same location on each statement, slight position variations can occur in the AFP file. To change the threshold to look for a text value that is in slightly different positions on some pages, click the **Advanced** tab. You can select a range from 1/100 to 1 inch.

   The threshold defines how far the text can be from the original location and be considered a mask value. For example, a threshold value of 12 indicates that the mask value can be located within .12 of an inch either vertically or horizontally. Usually the default threshold value of 10 is sufficient.

   Keep in mind that if you increase the threshold above the default value, you might mask text you did not expect because the match is only done on location, so the first text block found in the threshold range is used as the text mask.

9. Click **OK**.
10. Verify that the correct text has been masked in all page groups:

    1. Double-click the page groups in the bottom pane and verify that the correct text has been marked.
    2. If the text mask is incorrect, modify or delete the text mask (**Tools** → **Definitions** → **Modify and Delete**).

Modifying or deleting AFP Editor definitions

After you create barcodes, text, hidden areas, definition conditions, or text masks, you can modify or delete any of them. You can also create and modify conditions if you have defined at least two barcodes.

Modifying barcodes

You can modify the barcodes that were created with AFP Editor. You cannot modify barcodes that are defined in the AFP file itself.

Note

In AFP Visual Environment you can display measurement units in inches or millimeters. To change the measurement unit, click **View** → **Units**.

To modify a barcode:

1. In AFP Visual Environment, open a sample AFP file and the control file that contains the definitions for the barcodes. Then click **Mode** → **AFP Editor**.
2. Click **Tools** → **Modify Definitions**.
3. Do one of these:

   - Select the barcode that you want to modify and then click **Modify**.

- Double-click the barcode that you want to modify.

You see the Modify Barcode window.

Note

identifies barcodes that were not created because of an error. To see the error message, click **Modify** and then click **OK** on the Modify Barcode window.

4. Optional: On the **Type** tab, type a new name or change the type of barcode.

   See Type tab, p. 96 for a description of the fields.

5. Optional: On the **Data** tab, change the data to be encoded in the barcode symbol.

   See Data tab for Code 39, Data Matrix, Interleaved 2-of-5, PDF417, POSTNET, and QR Code barcodes, p. 99 or Data tab for IMBs, p. 100 for a description of the fields.

6. Optional: On the **Position** tab, change the exact origin and size of the barcode area, the orientation of the barcode symbol within the area, and on which pages to place the barcode in each page group.

   See Position tab, p. 102 for a description of the fields.

7. Click **OK**.
   If the barcode is an IMB, POSTNET, or QR Code barcode, you see the barcode symbol in the AFP file. If the barcode is a Code 39, Data Matrix, Interleaved 2-of-5, or PDF417 barcode, you see a box surrounding the barcode area with the title of the barcode area in the orientation that you selected for the barcode symbol.

   Note

   If the IMB is a text IMB and you do not see the barcode symbol, identify the resource directory that contains the AFP IMB font to AFP Visual Environment (**Resources** → **Specify Resource Directories**).

   - The AFP IMB font (character set C0XMUS23) is installed in the `plugins/EditAFP` directory.

8. To close the Modify and Delete Definitions window, click **X** in the upper right corner.

Type tab

On the **Type** tab, you specify the name of the barcode area, the type of barcode that you want to create, and the properties of the barcode.

Fields on the Type tab

Field	Value	Description
Barcode name	Any combination of a-z, A-Z, 0–9, special characters, and blanks.	The name of the barcode area. For example, if the barcode is an Intelligent Mail barcode (IMB), you could name the barcode “IMB”.
Barcode type	Code 39 (3-of-9 Code)	A low-density barcode that can encode uppercase letters, numbers, and some special characters.

Field	Value	Description
	Data Matrix	A two-dimensional (2D) barcode consisting of black and white square modules arranged in either a square or rectangular pattern. This barcode uses the Solomon-Reed error correction algorithm (ECC 200) to ensure data reliability.
	Intelligent Mail (IMB)	A barcode defined by the United States Postal Service (USPS) that is used to direct and track mail. This barcode was previously called a **USPS Four-State** barcode.
	Interleaved 2-of-5	A high-density barcode that can encode numbers.
	PDF417	A two-dimensional (2D) barcode that consists of several rows, each of which is like a small linear barcode. The barcode can detect and correct errors.
	POSTNET	A barcode defined by the USPS that is used to direct mail.
	QR Code	A two-dimensional (2D) matrix barcode that consists of black and white square modules arranged in a square pattern. The contents of this "Quick Response" code can be decoded at high speed. This barcode uses the Solomon-Reed error correction algorithm (ECC 200) to ensure data reliability.
Barcode representation	Output type	
	BCOCA object	AFP Editor creates barcode objects using Bar Code Object Content Architecture (BCOCA) structured fields. In general, BCOCA barcodes are preferred to text barcodes. However, some older printers cannot process newer barcode types. For example, IBM 3900 printers cannot process IMBs. In this case, text barcodes are required. This is the default.
	Text barcode	AFP Editor creates text barcodes that use the AFP barcode font. **Notes:** 1. This option is currently available only for IMBs. 2. AFP Editor uses the 300 dpi AFP IMB font (US23), which produces a standard height barcode: character set C0XMUS23 and code page T100USPS. If you create text barcodes, you must install the IMB font in the AFP resource directories that AFP Visual Environment uses. Otherwise, AFP Visual Environment cannot display the barcode symbol.
	Output size	

Field	Value	Description
	Optimal Size	AFP Editor creates BCOCA barcodes so they are displayed in the best size for viewing and printing. This is the default. Note This option is currently available only for IMBs.
	Compact Size	AFP Editor creates BCOCA barcodes so they are displayed in a compact size. Note This option is currently available only for IMBs.

This table describes the fields on the **Type** tab that let you specify barcode properties. The fields differ for each barcode type.

Fields on the Type tab for barcode properties

Barcode type	Field	Description
Code 39 (3-of-9 Code)	Include check digit	A check digit ensures data integrity during the bar coding reading process. If you select **Yes**, a check digit is included in the barcode symbol.
Data Matrix	Number of rows	The number of rows in the barcode including the finder pattern. If you select **Auto**, an appropriate number of rows is used for the amount of data in the barcode symbol.
	Row size	The number of modules in each row including the finder pattern. The row sizes you can select depend on the number of rows. If you select **Auto**, an appropriate row size is used for the amount of data in the barcode symbol.
Intelligent Mail (IMB)	None	None
Interleaved 2-of-5	Include check digit	A check digit ensures data integrity during the bar coding reading process. If you select **Yes**, check digit is included in the barcode symbol.
PDF417	Row size	The number of data symbol characters in each row. The printer creates the minimum number of rows necessary for the amount of data in the barcode symbol.
POSTNET	ZIP Code barcode	The barcode symbol consists of a leading frame bar, the encoded ZIP Code data, a correction digit, and a trailing frame bar. The ZIP Code data is a 5-digit number.
	ZIP Code+4 barcode	The barcode symbol consists of a leading frame bar, the encoded ZIP+4 data, a correction digit, and a trailing frame bar. The ZIP+4 data is a 9-digit number.

Barcode type	Field	Description
	Advanced Bar Code (ABC)	The barcode symbol consists of a leading frame bar, the encoded ABC data, a correction digit, and a trailing frame bar. The ABC data is an 11-digit number.
	Variable-length barcode	The barcode symbol consists of a leading frame bar, the encoded data, a correction digit, and a trailing frame bar. The encoded data is variable length.
QR Code	Size	The size of the barcode symbol, represented by the number of modules in each row and column. The values are 21x21 to 177x177, or "smallest", which indicates the smallest size that can include all data.

Data tab for Code 39, Data Matrix, Interleaved 2-of-5, PDF417, POSTNET, and QR Code barcodes

On the **Data** tab, you specify the data that AFP Editor encodes in the barcode symbol for Code 39, Data Matrix, Interleaved 2-of-5, PDF417, POSTNET, and QR Code barcodes.

Fields on Data tab

Field	Value	Description
Text	Any valid characters for the barcode type (see next table)	The text that you want to encode in the barcode symbol. For example, you could use a blank character to separate multiple index tags. (A blank is not a valid character in all barcode types.) This value is the same in all page groups.
Index tag	An index tag name	The index tag whose value you want to encode in the barcode. For example, you might want to encode a routing code that you previously indexed. The barcodes will contain the value of the index tag in the page group. This value can be different in each page group, but is the same for all pages in a page group.
Property	A property name	The property you want to encode in the barcode. The barcodes will contain the value of the property. This value is the same in all page groups.

Field	Value	Description
Include HRI	Above barcode symbol	Indicates that human-readable interpretation (HRI) is to be printed above the barcode symbol. This field is visible only for barcode types that support HRI: Code 39 and Interleaved 2-of-5.
	Below barcode symbol	Indicates that human-readable interpretation (HRI) is to be printed below the barcode symbol. This field is visible only for barcode types that support HRI: Code 39 and Interleaved 2-of-5.
Code page encoding	A defined code page encoding	The code page used to encode the barcode. You can only select an encoding from the drop-down list for QR Code barcodes.

This table shows the characters that are valid for each type of barcode.

Valid characters for barcodes

Barcode type	Valid characters	Total number of characters
Code 39 (3-of-9 Code)	0123456789 ABCDEFGHIJKLM NOPQRSTUVWXYZ - . $ / + % space character	0 to 50 characters
Data Matrix	Any one-byte character, or binary data	0 to 3116 characters
Interleaved 2-of-5	0123456789	0 to 50 characters
PDF417	Any one-byte character, or binary data	0 to 2710 characters
POSTNET	0123456789	The number of digits depends on the barcode property selected on the **Type** tab: • ZIP Code: 5 digits • ZIP Code + 4: 9 digits • Advanced Bar Code (ABC): 11 digits • Variable-length barcode: 0 to *n* digits (barcode receivers support at least 50 digits)
QR Code	Any one-byte character, or binary data	0 to 3116 characters

Data tab for IMBs

On the **Data** tab, you specify the data that AFP Editor encodes in the barcode symbol for Intelligent Mail barcodes (IMBs).

Fields on the Data tab for IMBs

Field	Value	Description
Barcode ID*	00 - 50	Optional Endorsement Line (OEL) sort level and exception handling.
Service type ID*	040 - 782	Type of mail and any mail services requested.
Mailer ID*	0, 6, or 9 digits	A 6 or 9-digit mailer ID obtained from the United States Postal Service (USPS). Note You can use the Mailer ID field for other purposes in an IMB used for reply mail.
Serial number*	A 6 or 9-digit serial number that identifies the mailpiece. The length depends on the number of digits specified for mailer ID. The mailer ID and serial number together can contain 15 digits. Note AFP Editor adds leading zeroes to the value in this field so that the value in the **Mailer ID** and **Serial number** fields together contain 15 digits.	
	Zeroes	AFP Editor creates a serial number that contains zeroes. Mailers who use only the USPS "Basic services" option can use serial numbers with zeroes.
	Index tag	The name of an index tag that contains the serial number.
	File name	The full path name of an IMB serial number file that contains the serial number to be encoded in the first barcode in the AFP file. AFP Editor increments the serial number in the file by 1 for each barcode.
Routing code*	The routing code (also called **routing ZIP Code** and **delivery point ZIP Code**) of the recipient of the mailpiece. The routing code, if one is specified, can contain 5, 9, or 11 digits.	
	Index tag	The name of an index tag that contains the routing code. If blank, AFP Editor does not include a routing code in the barcode. Note AFP Editor removes any non-numeric characters from the value in the index tag before encoding it in the barcode symbol. For example, if the value of the index tag in a page group is "12345–6789", the value in the barcode symbol is "123456789".

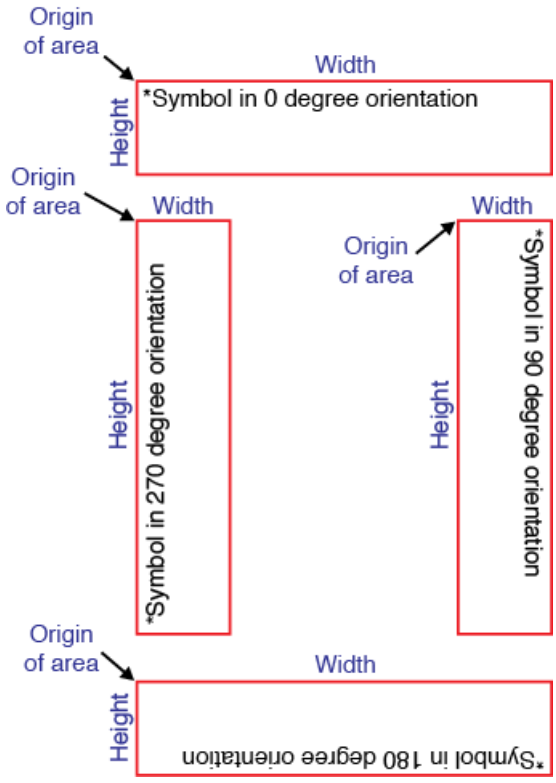
Field	Value	Description
Create index tag	Save	Indicates that AFP Editor is to create an index tag that contains the data encoded in the IMB in the page group. This option provides a record of the IMB data that you can use to retrieve a mailpiece if, for example, the USPS reports an address change for the mailpiece.
	Index tag name	The name to assign to the index tag that contains the IMB data. Any combination of a-z, A-Z, 0–9, special characters, and blanks.
*For more information about the values for these fields, see the *Intelligent Mail® Barcode Technical Resource Guide*.		

Position tab

On the **Position** tab, you specify the exact origin (top-left corner) and size (width and height) of the barcode area, and the orientation of the barcode symbol within the barcode area. You can also specify on which pages in each page group to place the barcode.

This figure shows four barcode areas with different orientations (0, 90, 180, 270 degrees) of the barcode symbol. It also shows the barcode area origin, width, and height that you specify on the **Position** tab for each area.

Barcode areas with four orientations of barcode symbol



In the figure, the asterisk (*) indicates the origin of the barcode symbol. AFP Editor automatically determines the origin of the barcode symbol. The barcode symbol origin is different for each orientation:

Orientation of symbol	Origin of symbol
0 degrees	Top-left corner of barcode area
90 degrees	Top-right corner of barcode area
180 degrees	Bottom-right corner of barcode area
270 degrees	Bottom-left corner of barcode area

Note

When you create BCOCA objects, the barcode area must be large enough to contain the largest barcode symbol and human-readable interpretation (HRI), if any, in each page group. If any part of the barcode symbol or HRI extends outside of the barcode area, the printer reports an exception and does not print the barcode correctly. When you create text IMBs, the size of the barcode area is ignored.

Fields on the Position tab

Field	Value	Description
Origin of area: X position	Any decimal value, such as 2.5. The X position cannot be greater than the width of the page.	The horizontal distance (in inches or millimeters) of the left side of the barcode area measured from the left side of the logical page (not the physical sheet of paper). Note If you rotated the AFP file using the **Rotate by 90°** option on the **View** menu, specify the X position from the top-left corner of the logical page in the unrotated view.
Origin of area: Y position	Any decimal value, such as 2.5. The Y position cannot be greater than the height of the page.	The vertical distance (in inches or millimeters) of the top of the barcode area measured from the top of the logical page (not the physical sheet of paper). Note If you rotated the AFP file using the **Rotate by 90°** option on the **View** menu, specify the Y position from the top-left corner of the logical page in the unrotated view.
Size of area: Width	Any decimal value, such as 2.5. The width of the area cannot be greater than the width of the page.	The horizontal width (in inches or millimeters) of the barcode area measured in the unrotated view. Note This field applies only to BCOCA objects. It is ignored for text barcodes.
Size of area: Height	Any decimal value, such as 2.5. The height of the area cannot be greater than the height of the page.	The vertical height (in inches or millimeters) of the barcode area measured in the unrotated view. Note This field applies only to BCOCA objects. It is ignored for text barcodes.

Field	Value	Description
Orientation	0 degrees	The barcode symbol is not rotated in the barcode area.
	90 degrees	The barcode symbol is rotated 90 degrees in the barcode area.
	180 degrees	The barcode symbol is rotated 180 degrees in the barcode area.
	270 degrees	The barcode symbol is rotated 270 degrees in the barcode area.
Origin of barcode symbol: X position	A decimal value.	The horizontal distance (in inches or millimeters) of the origin of the barcode symbol measured from the left side of the logical page (not the physical sheet of paper). AFP Editor automatically calculates this value.
Origin of barcode symbol: Y position	A decimal value.	The vertical distance (in inches or millimeters) of the origin of the barcode symbol measured from the top of the page. AFP Editor automatically calculates this value.
Placement of area	Page *n*	The barcode is placed on page *n* of each page group. *n* is the number of the page where you drew the barcode area.
	Multiple pages: All pages	The barcode is placed on all pages in each page group.
	Multiple pages: Even pages	The barcode is placed on the even pages in each page group (pages 2, 4, 6,...).
	Multiple pages: Odd pages	The barcode is placed on the odd pages in each page group (pages 1, 3, 5,...).

Deleting barcodes

You can delete the barcodes that were created with AFP Editor. You cannot delete barcodes that are defined in the AFP file itself (instead, you can create areas to hide barcodes).

To delete a barcode:

1. In AFP Visual Environment, open a sample AFP file and the control file that contains the definitions for the barcodes. Then click **Mode** → **AFP Editor**.
2. Click **Tools** → **Modify Definitions**.
   You see the Modify and Delete Definitions window with a list of the barcodes.
3. Select the barcode that you want to delete.
4. Click **Delete**, or press the Delete key on your keyboard.
   The barcode is removed from the list. Any conditions that are defined for that barcode are also deleted.
5. To close the Modify and Delete Definitions window, click **X** in the upper right corner.

Modifying conditions between barcode definitions

You can modify the conditions that AFP Editor uses to determine which barcode is used.

To modify a definition condition:

1. In AFP Visual Environment, open a sample AFP file and the control file that contains the condition definitions for the barcodes. Then click **Mode** → **AFP Editor**.
2. Click **Tools** → **Modify Definitions**.
3. Do one of these:
   - Select the definition condition that you want to modify and then click **Modify**.
   - Double-click the definition condition that you want to modify.

   You see the Modify Conditions between Definitions window.
4. Select the **Definition 1**, **Condition**, and **Definition 2** that you want to change.
5. Click **OK**.
   The condition is modified in the list.
6. To close the Modify and Delete Definitions window, click **X** in the upper right corner.

Deleting conditions between barcode definitions

You can delete the conditions that AFP Editor uses to determine which barcode is used.

To delete a definition condition:

1. In AFP Visual Environment, open a sample AFP file and the control file that contains the definitions for conditions. Then click **Mode** → **AFP Editor**.
2. Click **Tools** → **Modify Definitions**.
   You see the Modify and Delete Definitions window with a list of the definition conditions.
3. Select the definition condition that you want to delete.
4. Click **Delete**, or press the Delete key on your keyboard.
   The definition condition is removed from the list.
5. To close the Modify and Delete Definitions window, click **X** in the upper right corner.

Modifying hidden areas

You can modify the hidden areas that were created with AFP Editor.

Note

In AFP Visual Environment you can display measurement units in inches or millimeters. To change the measurement unit, click **View** → **Units**.

To modify a hidden area:

1. In AFP Visual Environment, open a sample AFP file and the control file that contains the definitions for the hidden areas. Then click **Mode** → **AFP Editor**.
2. Click **Tools** → **Modify Definitions**.
3. Do one of these:

   - Select the hidden area that you want to modify and then click **Modify**.
   - Double-click the hidden area that you want to modify.

   You see the Modify Hidden Area window.

   Note

   identifies barcodes that were not created because of an error. To see the error message, click **Modify** and then click **OK** on the Modify Barcode window.
4. To change the descriptive name of the hidden area, type the new name in the **Hidden area name** field.
5. To change the origin (top-left corner) of the hidden area, type new values in these fields.

   X position

   The horizontal distance of the left side of the hidden area measured from the left side of the logical page (not the physical sheet of paper). Decimal values (such as 2.5) are allowed. The X position cannot be greater than the width of the page.

   Y position

   The vertical distance of the top of the hidden area measured from the top of the logical page (not the physical sheet of paper). Decimal values (such as 2.5) are allowed. The Y position cannot be greater than the height of the page.

   Note

   If you rotated the AFP file using the **Rotate by 90 °** option on the **View** menu, measure the X and Y positions from the top-left corner of the page in the unrotated view.
6. To change the size of the hidden area, type new values in these fields.

   Width

   The horizontal width of the hidden area. Decimal values (such as 2.5) are allowed. The width of the area cannot be greater than the width of the page.

   Height

   The vertical height of the hidden area. Decimal values (such as 2.5) are allowed. The height of the area cannot be greater than the height of the page.

   Note

   Measure the width and height from the origin of the hidden area in the unrotated view.
7. To change the placement of the hidden area, select one of these options:

   - **Page *n***: Place the hidden area on page *n* of each page group (*n* is the page where you drew the box for the hidden area). You cannot change this page number. If the page number is incorrect, click **Cancel** and draw the box for the hidden area on the correct page.

- **Multiple pages**: Place the hidden area on:

  All pages

  All pages in each page group

  Even pages

  The even pages in each page group (pages 2, 4, 6,...)

  Odd pages

  The odd pages in each page group (pages 1, 3, 5,...)

8. Click **OK**.
   You do not see any text or image data in the hidden area in each page group.
9. To close the Modify and Delete Definitions window, click **X** in the upper right corner.

Deleting hidden areas

You can delete the hidden areas that were created with AFP Editor.

To delete a hidden area:

1. In AFP Visual Environment, open a sample AFP file and the control file that contains the definitions for the hidden areas. Then click **Mode** → **AFP Editor**.
2. Click **Tools** → **Modify Definitions**.
   You see the Modify and Delete Definitions window with a list of the hidden areas.
3. Select the hidden area that you want to delete.
4. Click **Delete**, or press the Delete key on your keyboard.
   The hidden area is removed from the list. You see any data that the hidden area covered in the AFP file.
5. To close the Modify and Delete Definitions window, click **X** in the upper right corner.

Modifying text strings

You can modify a string of text that was created with AFP Editor. You cannot modify text in the AFP file itself.

Note

- In AFP Visual Environment you can display measurement units in inches or millimeters. To change the measurement unit, click **View** → **Units**.

To modify a text string:

1. In AFP Visual Environment, open a sample AFP file and the control file that contains the definitions for text strings.
2. Click **Mode** → **AFP Editor**.
3. Click **Tools** → **Modify Definitions**.

4. Do one of these:
   - Select the text definition that you want to modify and then click **Modify**.
   - Double-click the text definition that you want to modify.

   You see the Modify Text String window.
5. **Optional:** On the **Text** tab, type a new name for the text area in the **Text definition name** field, change data in the **Text string data** section, or change the color in the **Color** drop-down list.

   To edit the text string, select a line of data and use **Up** or **Down** to change the order of the line or **Remove** to delete the line. You can also add new values. Remember to add blank characters between words if you need to. For example, to change the text string from "Page 1 of 10" to "Page 1 for John Doe":

   1. Press and hold the CTRL key, and then select `of` and **Page Count**.
   2. Click **Remove**.
   3. Type `for` in the **Text** field and click **Add**.
   4. Select a customer index tag from the **Index tag** drop-down list and click **Add**.

   You see the edited text string value in the field below the data fields.
6. **Optional:** On the **Font** tab, select one of these:

   Core Fonts

   From the drop-down lists, select the character set and code page, and, if the font is an outline font, the point size in the Font Information section.

   External Fonts

   Type a character set and code page pair, a coded font name, or all three. For double-byte character set (DBCS) fonts, use the coded font name only.

   Note

   - If you enter a code page that is part of a DBCS-coded font, you see an error message that suggests you use the coded font name instead.

   You see the **Character Set Description** and **Font Resource** fields change for the font you selected. **Font Resource** is "Outline" for core fonts and "Raster" for external fonts.

   Note

   - On your workstation, if the font size does not exist for the color you selected, your display defaults to 12 black, even though the final AFP file will have the correct font and color.
7. **Optional:** On the **Position** tab, change the origin (top-left corner), size, and orientation of the text area. Specify the origin and size in inches or millimeters. Decimal values (such as 2.5) are allowed.

   Note

   - If you rotated the AFP file using the **Rotate by 90°** option on the **View** menu, measure the X and Y positions from the top-left corner of the logical page in the unrotated view.
8. Click **OK**.
   You see the edited text in the AFP file.

Deleting text strings

You can delete a string of text that was created with AFP Editor. You cannot delete text in the AFP file itself (instead, you can create areas to hide text).

To delete a text string:

1. In AFP Visual Environment, open a sample AFP file and the control file that contains the definitions for text strings.
2. Click **Mode** → **AFP Editor**.
3. Click **Tools** → **Modify Definitions**.
   You see the Modify and Delete Definitions window with a list of text strings.
4. Select the text string that you want to delete.
5. Click **Delete**, or press the Delete key on your keyboard.
   The text string is removed from the list.
6. To close the Modify and Delete Definitions window, click **X** in the upper right corner.

Modifying text masks

You can modify any of the text mask definitions that were created with AFP Editor.

To modify a text mask:

1. In AFP Visual Environment, open a sample AFP file and the control file that contains the definitions for the text masks. Then click **Mode** → **AFP Editor**.
2. Click **Tools** → **Definitions** → **Modify and Delete**.
3. Select the text mask that you want to modify.
4. Click **Modify**, or double-click.
   You see the Modify Text Mask window.
5. Optional: Type another mask character if you do not want to use the default character. The value in the **Masked value** field changes to the character you selected.
6. Optional: To edit the text mask value, click **Edit text mask**. Edit the value in the Edit Value window and click **OK**.
7. Optional: Although text might appear to be present in the same location on each statement, slight position variations can occur in the AFP file. To change the threshold to look for a text value that is in slightly different positions on some pages, click the **Advanced** tab. You can select a range from 1/100 to 1 inch.

   The threshold defines how far the text can be from the original location and be considered a mask value. For example, a threshold value of 12 indicates that the mask value can be located within .12 of an inch either vertically or horizontally. Usually the default threshold value of 10 is sufficient.

Keep in mind that if you increase the threshold above the default value, you might mask text you did not expect because the match is only done on location, so the first text block found in the threshold range is used as the text mask.

8. Click **OK**.
9. To close the Modify and Delete Definitions window, click **X** in the upper right corner.

Deleting text masks

You can delete the text masks that were created with AFP Editor.

To delete a text mask:

1. In AFP Visual Environment, open a sample AFP file and the control file that contains the definitions for the text masks. Then click **Mode** → **AFP Editor**.
2. Click **Tools** → **Definitions**.
   You see the Modify and Delete Definitions window with a list of the text masks.
3. Select the text mask that you want to delete.
4. Click **Delete**, or press the Delete key on your keyboard.
   The text mask is removed from the list.
5. To close the Modify and Delete Definitions window, click **X** in the upper right corner.

Editing text for text masks

When you create or modify a text mask, you can edit the text value.

When you edit a text value, make sure that you edit it so that it is appropriate for all page groups because the text values can be different in each page group.

To edit the text for a text mask:

1. On the Edit Value window, select **On** for one or more of these options:

Edit by stripping characters	Type one character or a blank that you want to remove from the value. Remember that the character is case-sensitive. Then, select one of these buttons: **Strip leading characters** The specified character is removed from the beginning of the value. For example, if you type a blank character, all blanks are removed from the beginning of the value. **Strip trailing characters** The specified character is removed from the end of the value. For example, if you type a blank character, all blanks are removed from the end of the value. **Strip leading and trailing characters** The specified character is removed from the beginning and end of the value. For example, if you type a blank character, all blanks are removed from the beginning and end of the value. **Strip all characters** The specified character is removed from all positions in the value. For example, an account number is: 324-1443255-11. You can type a - to strip all - characters from the value.
Edit on delimiter	Type a text string of one or more characters or blanks in the **Specify delimiter string** field to indicate where the text value is split into separate strings. Remember that the text is case-sensitive. Then select numbers for **Select first string** and **Select number of strings** to mark the beginning and end of the edited text. For example, an account number is: 324-1443255-11. You can use - as the delimiter to split the value into these three strings: 324, 1443255, and 11. To select the second and third strings, 1443255-11, select **2** for both **Select first string** and **Select number of strings**.
Edit on character	Select numbers for **Select first character position** and **Select number of characters** to indicate the first character in the text value and how many characters are included.

When you select the options in the window, the text value for the current page group is edited based on your selections and the new value is displayed in the **Edited text** field.

2. Click **OK**.

6. Adding content to white space in AFP files

- **Creating definitions for known white space**
- **Creating definitions by searching for white space**
- **Modifying or deleting white space definitions**
- **Assigning content to white space**

Whitespace Manager can find areas of available white space in AFP files and then fill the white space with content, such as images or text.

You can define white space in AFP files by choosing known white space on a page or by searching for the first available white space in a page group. You can also modify or delete any white space definitions you have created. After white space is defined, you can assign image and text content to the white space areas by creating rules that determine what content is assigned and under what conditions it is assigned.

Creating definitions for known white space

You can create a definition for white space that you know exists on the same page in all page groups.

Areas with overlays, page segments, barcodes, and images are considered available white space and you can create a white space definition over them. However, this is not recommended unless you want the content to merge with the existing content.

The white space area is only defined on the current page of the page group.

Note

- In AFP Visual Environment you can display measurement units in inches or millimeters. To change the measurement unit, click **View** → **Units**.

To create a known white space definition:

1. In AFP Visual Environment, open a sample AFP file.
2. If the file does not contain page groups, use AFP Indexer to create page groups.
3. Click **Mode** → **Whitespace Manager**.
4. Select the page in the page group where you want to define white space.
5. Position your cursor at a corner of the area where you want to define white space. While pressing the left mouse button, draw a box the approximate size of the white space area. You can draw a horizontal, vertical, or square box.

   In a later step, you can specify the exact position and size of the white space area.
6. Right-click anywhere on the page and click **Using known white space**.
   If a white space area is already defined on the page, you see an error message. Otherwise, you see the **White space** tab in the Using known white space window with the page you selected displayed in the **Current Page** field.
7. Type a name for the white space definition.

   Give the definition a descriptive name to distinguish it from other definitions.
8. From the drop-down list, select which page you want the white space area added to:

   This page

   Adds the white space area to the current page.

Last page

Adds the white space area to the last page. You can only select this option if the current page is the last page in the page group. You might want to create a **Last page** definition instead of **This page** when the page groups contain a variable number of pages and you want the white space to always be on the last page.

If a selection is grayed-out, it is the only one available.

9. **Optional:** On the **Position** tab, change the origin (top-left corner) and size (width and height) of the white space area in inches or millimeters. Decimal values (such as 2.5) are allowed.

Fields on the **Position** tab, p. 134 shows the fields on the **Position** tab.

Fields on the Position tab

Field	Value	Description
Origin of area: X position	Any decimal value, such as 2.5. The X position cannot be greater than the width of the page.	The horizontal distance (in inches or millimeters) of the left side of the white space area measured from the left side of the logical page (not the physical sheet of paper). Note If you rotated the AFP file using the **Rotate by 90°** option on the **View** menu, specify the X position from the top-left corner of the logical page in the unrotated view.
Origin of area: Y position	Any decimal value, such as 2.5. The Y position cannot be greater than the height of the page.	The vertical distance (in inches or millimeters) of the top of the white space area measured from the top of the logical page (not the physical sheet of paper). Note If you rotated the AFP file using the **Rotate by 90°** option on the **View** menu, specify the Y position from the top-left corner of the logical page in the unrotated view.
Size of area: Width	Any decimal value, such as 2.5. The width of the area cannot be greater than the width of the page.	The horizontal width (in inches or millimeters) of the white space area measured in the unrotated view.
Size of area: Height	Any decimal value, such as 2.5. The height of the area cannot be greater than the height of the page.	The vertical height (in inches or millimeters) of the white space area measured in the unrotated view.

10. Click **OK**.
    You see the defined white space area displayed as a colored box.
11. Verify that the correct white space area has been defined:
    1. In the bottom pane, click the **White spaces** tab.
    2. Expand a page group and double-click the white space definition.
       You see a rectangle box highlighting the white space area on the page you selected.
    3. If the white space area is incorrect, modify or delete it (**Tools** → **Modify Definitions**).
12. **Optional:** To create another white space definition, go to step and repeat the steps.

Creating definitions by searching for white space

When you do not know where white space exists, you can search for the first available white space in a page group and create a definition. Whitespace Manager searches for the largest white space area on a page that meets the minimum dimensions specified.

When Whitespace Manager finds white space that meets the specifications on that page, it stops the search.

Areas with overlays, page segments, barcodes, and images are considered available white space and you can create a white space definition over them. However, this is not recommended unless you want the content to merge with the existing content.

Note

- In AFP Visual Environment you can display measurement units in inches or millimeters. To change the measurement unit, click **View** → **Units**.

To create a definition for the first available white space in a page group:

1. In AFP Visual Environment, open a sample AFP file.
2. If the file does not contain page groups, use AFP Indexer to create page groups.
3. Click **Mode** → **Whitespace Manager**.
4. Select a page in the page group.
5. Position your cursor at a corner of the area where you want to define white space. While pressing the left mouse button, draw a box the approximate size of the white space area. You can draw a horizontal, vertical, or square box.

   In a later step, you can specify the exact position and size of the white space area.
6. Right-click anywhere on the page and click **Searching for white space**.
   If the maximum number of white space areas are defined, you see an error message. Otherwise, you see the **White space** tab in the Searching for white space window with the page you selected displayed in the **Current Page** field.
7. Type a name for the white space definition.

   Make sure you give the definition a descriptive name to distinguish it from other definitions.
8. Specify the minimum width and height for the white space area.

   Whitespace Manager searches for the first available white space that meets the minimum specified dimensions. The fields are:

Width

Any decimal value, such as 0.75, for the horizontal width (in inches or millimeters) of the white space area. The minimum width of the area can be equal to or greater than 0.5 inches or 12.7 millimeters.

Height

Any decimal value, such as 0.75, for the vertical height (in inches or millimeters) of the white space area. The minimum height of the area can be equal to or greater than 0.5 inches or 12.7 millimeters.

9. From the drop-down list in the Select Pages in the Page Group section, select which page or pages you want the white space area added to:

This page

Adds the white space area to the current page unless a known white space area is defined or no white space area meets the specified dimensions.

This and following pages

Searches the current page and all pages that follow in the page group and adds the white space area on the first page where it finds white space that meets the specified dimensions.

Last page

Adds the white space area to the last page unless a known white space area is defined or no white space area meets the specified dimensions. You can only select this option if the current page is the last page in the page group. You might want to create a **Last page** definition instead of **This page** when the page groups contain a variable number of pages and you want the white space to always be on the last page.

If a selection is grayed-out, it is the only one available.

10. **Optional:** On the **Position** tab, change the origin (top-left corner) and size (width and height) of the white space area.

Fields on the **Position** tab, p. 136 shows the fields on the **Position** tab.

Fields on the Position tab

Field	Value	Description
Origin of area: X position	Any decimal value, such as 2.5. The X position cannot be greater than the width of the page.	The horizontal distance (in inches or millimeters) of the left side of the white space area measured from the left side of the logical page (not the physical sheet of paper). Note If you rotated the AFP file using the **Rotate by 90°** option on the **View** menu, specify the X position from the top-left corner of the logical page in the unrotated view.
Origin of area: Y position	Any decimal value, such as 2.5. The Y position cannot	The vertical distance (in inches or millimeters) of the top of the white space area measured from the top of the logical page (not the physical sheet of paper).

Field	Value	Description
	be greater than the height of the page.	Note If you rotated the AFP file using the **Rotate by 90°** option on the **View** menu, specify the Y position from the top-left corner of the logical page in the unrotated view.
Size of area: Width	Any decimal value, such as 2.5. The width of the area cannot be greater than the width of the page.	The horizontal width (in inches or millimeters) of the white space area measured in the unrotated view.
Size of area: Height	Any decimal value, such as 2.5. The height of the area cannot be greater than the height of the page.	The vertical height (in inches or millimeters) of the white space area measured in the unrotated view.

11. Click **OK**.
    You see the defined white space area displayed as a colored box.
12. Verify that the correct white space area has been defined:
    1. In the bottom pane, click the **White spaces** tab.
    2. Expand a page group and double-click the white space definition.
       You see a rectangle box highlighting the white space area on the page you selected.
    3. If the white space area is incorrect, modify or delete it (**Tools** → **Modify Definitions**).
13. **Optional:** Optional: To create another white space definition, go to Step **4** and repeat the steps.

Modifying or deleting white space definitions

After you define white space areas in an AFP file, you can modify or delete any of the definitions.

Modifying known white space definitions

You can modify a definition for white space that you know exists on a page.

Note

- In AFP Visual Environment you can display measurement units in inches or millimeters. To change the measurement unit, click **View** → **Units**.

To modify a known white space definition:

1. In AFP Visual Environment, open a sample AFP file and the control file that contains the definitions for white space.
2. Click **Mode** → **Whitespace Manager**.
3. Click **Tools** → **Modify Definitions**.
4. Do one of these:
   - Select a known white space definition and then click **Modify**.
   - Double-click the known white space definition that you want to modify.

   You see the Using known white space window. The **Current Page** field displays the page in the page group where the white space was created. If the **Which Page** field is grayed-out, you cannot change it.
5. **Optional:** On the **White space** tab, type a new name for the white space area in the **Definition name** field and select a page option from the **Which Page** drop-down list if it is available.
6. **Optional:** On the **Position** tab, change the origin (top-left corner) and size (width and height) of the white space area.
7. Click **OK**.

Modifying white space defined from a search

You can modify white space that you defined from a search.

Note

- In AFP Visual Environment you can display measurement units in inches or millimeters. To change the measurement unit, click **View** → **Units**.

To modify white space defined from a search:

1. In AFP Visual Environment, open a sample AFP file and the control file that contains the definitions for white space.
2. Click **Mode** → **Whitespace Manager**.
3. Click **Tools** → **Modify Definitions**.
4. Do one of these:
   - Select a white space definition created from a search and then click **Modify**.
   - Double-click the white space definition from a search that you want to modify.

   You see the Searching for white space window. The **Current Page** field displays the page in the page group where the white space was created. If the **Which Page** field is grayed-out, you cannot change it.
5. **Optional:** On the **White space** tab:
   - Type a new name for the white space area in the **Definition name** field.

- Change the minimum width and height for the white space area. Whitespace Manager searches for the first available white space that meets the minimum specified dimensions.
- Select a page option from the **Which Page** drop-down list if it is available.

6. **Optional:** On the **Position** tab, change the origin (top-left corner) and size (width and height) of the white space area.
7. Click **OK**.

Deleting white space definitions

You can delete the white space definitions that were created with Whitespace Manager.

Deleting a white space definition also deletes any rules created for the definition in the Manage Campaigns window. Make sure you no longer need the rules before deleting a white space definition.

To delete a white space definition:

1. In AFP Visual Environment, open a sample AFP file and the control file that contains the definitions for the white space.
2. Click **Mode** → **Whitespace Manager**.
3. Click **Tools** → **Modify Definitions**.
   You see the Modify and Delete Definitions window with definitions of white space from a search and known white space.
4. Select the white space definition that you want to delete.
5. Click **Delete**, or press the Delete key on your keyboard.
   The white space definition is removed from the list. Any rules created for the white space definition are also deleted.
6. To close the Modify and Delete Definitions window, click **X** in the upper right corner.

Assigning content to white space

You can assign image and text content to defined white space areas by creating rules that determine what content is assigned and under what conditions it is assigned.

You must create one or more white space definitions before you can assign content.

Creating rules for assigning content

You create one or more rules for assigning content to white space so you can target the content for specific customers or for the best use of available space.

You must create one or more white space definitions before you can assign content. Also, index tags you want to use as conditions in rules must exist in page groups. You can use AFP Indexer to create index tags.

Note

- In AFP Visual Environment you can display measurement units in inches or millimeters. To change the measurement unit, click **View** → **Units**.

To create rules for assigning content to white space:

1. In AFP Visual Environment, open a sample AFP file and the control file that contains white space definitions.
2. Click **Mode** → **Whitespace Manager**.
3. Click **Tools** → **Manage Campaigns**.
   You see the Manage Campaigns window.
4. Select a white space definition from the list in the top pane of the window.
5. Click **Create rules/content**.
   The default rule **Always** is displayed and highlighted below the white space definition. **Always** means that the content is assigned to the white space with no restrictions.
6. Optional: Specify one or more conditions if you want a rule other than **Always**:
   1. Click **Create** in the **Conditions** section.
      You see the Create Condition window.
   2. Select an index tag and operator from the drop-down lists, type a value, and then click **OK**.
      The **Always** rule is replaced with the condition you created.
   3. Optional: Click **Create** to create another condition for the rule.

      You see the Create Condition window.

      1) Select an index tag and operator from the drop-down lists, type a value, and then click **OK**. The condition you created is added to the rule with the **And** operator between conditions.
      2) Optional: Click **Or** in the **Combine conditions** section to change the operator from the default **And**. The rule is displayed with **Or** as the operator between conditions.
7. Specify the content that is assigned when the rule is true:
   1. Click **Insert text** to assign text. You see the Insert Text window.
      1) Define the text string data and the text color on the **Text** tab.
      2) Optional: Change the text font on the **Font** tab.
      3) Optional: Adjust the text position in the white space area on the **Position** tab.
      4) Click **OK**.
      5) Optional: Repeat the steps to add more text.
   2. Click **Insert image** to assign an image. You see the Insert Image window.
      1) On the **Image** tab, specify the image type, file name, and whether the image is added inline. If the file type is JPEG or GIF, specify the width and height of the image.
      2) Optional: Adjust the image position in the white space area on the **Position** tab.
      3) Click **OK**.
      4) Optional: Repeat the steps to add another image.

3. **Optional:** Click **Preview** to view how the text and images you created are displayed in the defined white space.

   You see the If Content Preview window. To close the window, click the **X** in the upper right corner.

8. **Optional:** Specify the content that is assigned when the rule is false.

   This section is not available when the rule is **Always**.

   1. Click **Insert text** to assign text. You see the Insert Text window.
      1) Define the text string data and the text color on the **Text** tab.
      2) Optional: Change the text font on the **Font** tab.
      3) Optional: Adjust the text position in the white space area on the **Position** tab.
      4) Click **OK**.
      5) Optional: Repeat the steps to add more text.
   2. Click **Insert image** to assign an image. You see the Insert Image window.
      1) On the **Image** tab, specify the image type, file name, and whether the image is added inline. If the file type is JPEG or GIF, specify the width and height of the image.
      2) Optional: Adjust the image position in the white space area on the **Position** tab.
      3) Click **OK**.
      4) Optional: Repeat the steps to add another image.
   3. **Optional:** Click **Preview** to view how the text and images you specified are displayed in the defined white space.

      You see the Else Content Preview window. To close the window, click the **X** in the upper right corner.

9. **Optional:** To create another rule, go to Step **4** and repeat the steps.
10. Click **OK**.

Inserting content text

You can define the text you want inserted as white space content.

Note

- In AFP Visual Environment you can display measurement units in inches or millimeters. To change the measurement unit, click **View** → **Units**.

To define the text you want inserted as content:

1. In AFP Visual Environment, open a sample AFP file and the control file that contains the white space definitions.
2. Click **Mode** → **Whitespace Manager**.
3. Click **Tools** → **Manage Campaigns**.
   You see the Manage Campaigns window.

4. Do one of these:
   - Select an existing rule from the list in the top pane of the window.
   - Select a white space definition from the list in the top pane of the window and then click **Create rules/content** to create a new rule.
5. Click **Insert text** in the **Content** section.
   You see the Insert Text window.
6. On the **Text** tab, create a text string.

   Remember to add blank characters between words if you need to. For example, to add the page number, such as "Page 1 of 10", to the first page of each page group:

   1. Type `Page` and a space in the **Text** field and click **Add**.
   2. Select **Page in Page Group** from the **Property** drop-down list and click **Add**. **Page in Page Group** is the number of the page in the page group.
   3. Type a space, `of`, and another space in the **Text** field and click **Add**.
   4. Select **Page Group Page Count** from the **Property** drop-down list and click **Add**. **Page Group Page Count** is the total number of pages in the page group.

   You see the text string value in the field below the data fields.
7. **Optional:** To edit the text string, select a line of data and use **Up** or **Down** to change the order of the line or **Remove** to delete the line.

   Remember to add blank characters between words if you need to.
8. Optional: Select a color for the text from the **Color** drop-down list.
9. Optional: On the **Font** tab, select one of these:

   Core Fonts

   From the drop-down lists, select the character set and code page, and, if the font is an outline font, the point size in the Font Information section.

   External Fonts

   Type a character set and code page pair, a coded font name, or all three. For double-byte character set (DBCS) fonts, use the coded font name only.

   Note

   - If you enter a code page that is part of a DBCS-coded font, you see an error message that suggests you use the coded font name instead.

   You see the **Character Set Description** and **Font Resource** fields change for the font you selected. **Font Resource** is "Outline" for core fonts and "Raster" for external fonts.

   Note

   - On your workstation, if the font size does not exist for the color you selected, your display defaults to 12 black, even though the final AFP file will have the correct font and color.
10. **Optional:** On the **Position** tab, change the origin (top-left corner) of the text area. Specify the origin in inches or millimeters. Decimal values (such as 2.5) are allowed. The fields are:

    X position

The horizontal distance of the left side of the area measured from the left side of the text area.

Y position

The vertical distance of the top of the area measured from the top of the text area.

11. Click **OK**.
The text is added to the rule and the list in the drop-down box.
12. **Optional:** Click **Preview** to view how the text you specified is displayed in the defined white space.

To close the window, click the **X** in the upper right corner.

Inserting content images

You can define the images you want inserted as white space content.

Note

- In AFP Visual Environment you can display measurement units in inches or millimeters. To change the measurement unit, click **View** → **Units**.

To define the images you want inserted as content:

1. In AFP Visual Environment, open a sample AFP file and the control file that contains the white space definitions.
2. Click **Mode** → **Whitespace Manager**.
3. Click **Tools** → **Manage Campaigns**.
You see the Manage Campaigns window.
4. Do one of these:
   - Select an existing rule from the list in the top pane of the window.
   - Select a white space definition from the list in the top pane of the window and then click **Create rules/content** to create a new rule.
5. Click **Insert image** in the **Content** section.
You see the Insert Image window.
6. On the **Image** tab, do these:
   - Select the file type in the **Type** drop-down list. If the file type is JPEG or GIF, you must specify the size of the image in these fields:

     Width

     Any positive decimal value, such as 0.75, for the horizontal width (in inches or millimeters) of the image. The default width is 0.5 inches or 12.7 millimeters.

     Height

     Any positive decimal value, such as 0.75, for the vertical height (in inches or millimeters) of the image. The default height is 0.5 inches or 12.7 millimeters.
   - Type a file name in the **Image file name** field, or click **Browse** to select a file.

- Optional: Click **Add image inline** to add the image to the resource group in the AFP file.

7. **Optional:** On the **Position** tab, change the origin (top-left corner) of the image area. Specify the origin in inches or millimeters. Decimal values (such as 2.5) are allowed. The fields are:

   X position

   The horizontal distance of the left side of the area measured from the left side of the image area.

   Y position

   The vertical distance of the top of the area measured from the top of the image area.

8. Click **OK**.
   The image is added to the rule and the list in the drop-down box.
9. **Optional:** Click **Preview** to view how the image you specified is displayed in the defined white space.

   To close the window, click the **X** in the upper right corner.
10. Click **OK**.
    If you added the image inline, you see the image listed in the inline resource group in the left pane.

Modifying content text

You can modify the text you have defined for white space content.

Note

In AFP Visual Environment you can display measurement units in inches or millimeters. To change the measurement unit, click **View** → **Units**.

To modify text you have defined in content:

1. In AFP Visual Environment, open a sample AFP file and the control file that contains the white space definitions.
2. Click **Mode** → **Whitespace Manager**.
3. Click **Tools** → **Manage Campaigns**.
   You see the Manage Campaigns window.
4. Select a rule from the list in the top pane of the window.
5. Select text content from the drop-down list.
6. Click **Edit** in the **Content** section.
   You see the Modify Text window.
7. Optional: On the **Text** tab, change data in the **Text string data** section, change the color in the **Color** drop-down list, or both.

   To edit the text string, select a line of data and use **Up** or **Down** to change the order of the line or **Remove** to delete the line. You can also add new values. Remember to add blank characters between words if you need to. For example, to change the text string from "Page 1 of 10" to "Page 1 for John Doe":

1. Press and hold the CTRL key, and then select `of` and **Page Count**.
2. Click **Remove**.
3. Type `for` in the **Text** field and click **Add**.
4. Select an index tag that contains the customer name (such as John Doe) from the **Index tag** drop-down list and click **Add**.

You see the edited text string value in the field below the data fields.

8. **Optional:** On the **Font** tab, select one of these:

Core Fonts

From the drop-down lists, select the character set and code page, and, if the font is an outline font, the point size in the Font Information section.

External Fonts

Type a character set and code page pair, a coded font name, or all three. For double-byte character set (DBCS) fonts, use the coded font name only.

Note

- If you enter a code page that is part of a DBCS-coded font, you see an error message that suggests you use the coded font name instead.

You see the **Character Set Description** and **Font Resource** fields change for the font you selected. **Font Resource** is "Outline" for core fonts and "Raster" for external fonts.

Note

- On your workstation, if the font size does not exist for the color you selected, your display defaults to 12 black, even though the final AFP file will have the correct font and color.

9. **Optional:** On the **Position** tab, change the origin (top-left corner) of the text area. Specify the origin in inches or millimeters. Decimal values (such as 2.5) are allowed.
10. Click **OK**.
    You see the edited text.
11. **Optional:** Click **Preview** to view how the text you specified is displayed in the defined white space.

    To close the window, click the **X** in the upper right corner.

Modifying content images

You can modify the images you have defined for white space content.

Note

- In AFP Visual Environment you can display measurement units in inches or millimeters. To change the measurement unit, click **View** → **Units**.

To modify images you have defined in content:

1. In AFP Visual Environment, open a sample AFP file and the control file that contains the white space definitions.
2. Click **Mode** → **Whitespace Manager**.
3. Click **Tools** → **Manage Campaigns**.
   You see the Manage Campaigns window.
4. Select a rule from the list in the top pane of the window.
5. Select image content from the drop-down list.
6. Click **Edit** in the **Content** section.
   You see the Modify Image window.
7. Optional: On the **Image** tab, you can do these:
   - Change the file type in the **Type** drop-down list. If the file type is JPEG or GIF, you must specify the size of the image in these fields:

     Width

     Any positive decimal value, such as 0.75, for the horizontal width (in inches or millimeters) of the image. The default width is 0.5 inches or 12.7 millimeters.

     Height

     Any positive decimal value, such as 0.75, for the vertical height (in inches or millimeters) of the image. The default height is 0.5 inches or 12.7 millimeters.
   - Type a file name in the **Image file name** field, or click **Browse** to select a file.
   - Click **Add image inline** to add the image to the resource group in the AFP file.
8. **Optional:** On the **Position** tab, change the origin (top-left corner) of the image. Specify the origin in inches or millimeters. Decimal values (such as 2.5) are allowed.
9. Click **OK**.
10. **Optional:** Click **Preview** to view how the image you specified is displayed in the defined white space.

    To close the window, click the **X** in the upper right corner.

Creating rule conditions for content

You can create rule conditions that determine when content is assigned to white space.

To create a rule condition:

1. In AFP Visual Environment, open a sample AFP file and the control file that contains the white space definitions.
2. Click **Mode** → **Whitespace Manager**.
3. Click **Tools** → **Manage Campaigns**.
   You see the Manage Campaigns window.
4. Do one of these:
   - Select an existing rule from the list in the top pane of the window.

- Select a white space definition from the list in the top pane of the window and then click **Create rules/content** to create a new rule.

5. Click **Create** in the **Conditions** section.
   You see the Create Condition window.
6. Use the drop-down list to select an index tag in the **Index tags** field.
7. Use the drop-down list to select one of these in the **Operator** field:
   - **greater than**
   - **less than**
   - **equals**
   - **contains**
8. Type a value in the **Value** field.
9. Click **OK**.
   The condition you created is added to the rule.
10. Optional: Click **Create** to create another condition for the rule.
    The condition you created is added to the rule with the **And** operator between conditions.
11. Optional: Click **Or** in the **Combine conditions** section to change the operator from the default **And**. The rule is displayed with **Or** as the operator between conditions.
12. Click **OK**.

Modifying rule conditions for content

You can modify rule conditions that determine when content is assigned to white space.

To modify a rule condition:

1. In AFP Visual Environment, open a sample AFP file and the control file that contains the white space definitions.
2. Click **Mode** → **Whitespace Manager**.
3. Click **Tools** → **Manage Campaigns**.
   You see the Manage Campaigns window.
4. Select an existing rule from the list in the top pane of the window.
5. Click **Edit** in the **Conditions** section.
   You see the Edit Condition window.
6. **Optional:** Use the drop-down list to change the index tag in the **Index tags** field.
7. **Optional:** Use the drop-down list to change to one of these in the **Operator** field:
   - **greater than**
   - **less than**
   - **equals**
   - **contains**

8. **Optional:** Change the value in the **Value** field.
9. Click **OK**.
   The condition you edited is modified in the rule.
10. Optional: Click **Or** or **And** in the **Combine conditions** section to change the operator between conditions. The rule is displayed with the operator you selected.
11. Click **OK**.

Deleting content from white space

You can delete rules, conditions, and content that you have assigned to white space definitions.

To delete rules, conditions, or content:

1. In AFP Visual Environment, open a sample AFP file and the control file that contains the white space definitions.
2. Click **Mode** → **Whitespace Manager**.
3. Click **Tools** → **Manage Campaigns**.
   You see the Manage Campaigns window.
4. Select a rule from the list in the top pane of the window.
5. Optional: To delete conditions:
   1. Select a condition from the drop-down list.
   2. Click **Delete** in the **Conditions** section.
      You see that the condition has been removed from the rule.
   3. Repeat the steps to delete another condition in the rule.
      If you delete all the conditions, the rule defaults to **Always**.
6. Optional: To delete content:
   1. Select content from the drop-down list.
   2. Click **Delete** in the **Content** section.
      You see that the content has been removed from the rule.
   3. Repeat the steps to delete more content from the rule.
7. Optional: To delete a rule and all its conditions and content, click **Delete** in the top pane.
   You see that the rule has been removed from the list.
8. Optional: To delete another rule or the conditions or content for a rule, go to Step **4** and repeat the steps.
9. Click **OK**.

7. Enhancing production AFP files

- **Sending AFP Visual Environment files to the production system**
- **Creating page groups and indexes in production AFP files**
- **Creating hidden areas, bar codes, and text masks in production AFP files**

After you enhance a sample AFP file, run an AFP Visual Environment command to enhance production AFP files in the same way.

The AFP Visual Environment commands use the control file that the AFP Visual Environment user interface created when you enhanced the sample AFP file. If the commands run on a different system than the preparation system, you must first send the control file and other optional AFP Visual Environment files to the production system.

Sending AFP Visual Environment files to the production system

If the production AFP files are on a different system from the preparation system, send the AFP Visual Environment control file and other optional AFP Visual Environment files to the production system.

To send AFP Visual Environment files to the production system:

1. On the preparation system, use the File Transfer Protocol (**ftp**) to send the AFP Visual Environment control files to the production system. Use the **ftp** binary option.
2. Optional: If you created AFP Visual Environment font-mapping files, on the preparation system use **ftp** to send the font-mapping files to a directory on the production system. Use the **ftp** binary option.
3. Optional: If you created IMB serial number files, use **ftp** to send the serial number files to the production system. Use the **ftp** binary option.

Creating page groups and indexes in production AFP files

The IndexAFP command creates page groups and index tags in production AFP files. It uses the AFP Visual Environment control file that contains the definitions for the page groups and index tags.

IndexAFP applies the definitions that create page groups and index tags to an AFP file that contains MO:DCA-P data and writes the result to another AFP file. You can run IndexAFP directly, or you can use the PluginMgr command to run IndexAFP. If the control file also contains definitions to create hidden areas and bar codes, it is more efficient to run PluginMgr because it can run IndexAFP and EditAFP at the same time.

To create page groups and indexes in production AFP files:

1. Do one of these:
   - Run the IndexAFP command. For example:
     - AIX:

```
java -jar /install_directory/plugins/IndexAFP/IndexAFP.jar
-i /directory/infile.afp -o /directory/outfile.afp
-c /directory/infile.ctl
```

     - Windows:

```
java -jar C:\install_directory\plugins\IndexAFP\IndexAFP.jar
-i C:\directory\infile.afp -o C:\directory\outfile.afp
-c C:\directory\infile.ctl
```

– z/OS UNIX:

```
java -jar /install_directory/plugins/IndexAFP/IndexAFP.jar
-i /directory/infile.afp -o /directory/outfile.afp
-c /directory/infile.ctl
```

- Run the PluginMgr command. For example:

  – AIX:

```
java -jar /install_directory/PluginMgr.jar
-i /directory/infile.afp -o /directory/outfile.afp
-c /directory/infile.ctl
```

  – Windows:

```
java -jar C:\install_directory\PluginMgr.jar
-i C:\directory\infile.afp -o C:\directory\outfile.afp
-c C:\directory\infile.ctl
```

  – z/OS UNIX:

```
java -jar /install_directory/PluginMgr.jar
-i /directory/infile.afp -o /directory/outfile.afp
-c /directory/infile.ctl
```

For *install_directory*, use the directory where you installed AFP Visual Environment.

For *directory*, use the directory where the file is located.

2. If the return code from IndexAFP or PluginMgr is <0, look in **stderr** or the log for error messages.
3. Repeat the command for each production AFP file.

Creating hidden areas, bar codes, and text masks in production AFP files

The EditAFP command hides areas, creates bar codes, and masks text in production AFP files. It uses the AFP Visual Environment control file that contains definitions for the hidden areas, bar codes, and text masks.

EditAFP applies the definitions for hidden areas, bar code, and text masks to an AFP file and writes the result to another AFP file. You can run EditAFP directly, or you can use the PluginMgr command to run EditAFP. If the control file also contains definitions to create page groups and index tags, it is more efficient to run PluginMgr because it can run IndexAFP and EditAFP at the same time.

To create hidden areas and bar codes in production AFP files:

1. Optional: If the production system is different from the preparation system, use the File Transfer Protocol (**ftp**) to send the control file, font-mapping files (if any), and IMB serial number file (if any) to the production system.

   Use the **ftp** binary option.
2. Do one of these:

   - Run the EditAFP command. For example:

     – AIX:

```
java -jar /install_directory/plugins/EditAFP/EditAFP.jar
-i /directory/infile.afp -o /directory/outfile.afp
-c /directory/infile.ctl
```

- Windows:

```
java -jar \install_directory\plugins\EditAFP\EditAFP.jar
-i \directory\infile.afp -o \directory\outfile.afp
-c \directory\infile.ctl
```

- z/OS UNIX:

```
java -jar /install_directory/plugins/EditAFP/EditAFP.jar
-i /directory/infile.afp -o /directory/outfile.afp
-c /directory/infile.ctl
```

- Run the PluginMgr command. For example:
  - AIX:

```
java -jar /install_directory/PluginMgr.jar
-i /directory/infile.afp -o /directory/outfile.afp
-c /directory/infile.ctl
```

  - Windows:

```
java -jar \install_directory\PluginMgr.jar
-i \directory\infile.afp -o \directory\outfile.afp
-c \directory\infile.ctl
```

  - z/OS UNIX:

```
java -jar /install_directory/PluginMgr.jar
-i /directory/infile.afp -o /directory/outfile.afp
-c /directory/infile.ctl
```

For *install_directory*, use the directory where you installed AFP Visual Environment.

For *directory*, use the directory where the file is located.

3. If the return code from EditAFP or PluginMgr is <0, look in **stderr** or the log for error messages.
4. Run the command again for each production AFP file.

8. AFP Visual Environment commands

- **EditAFP command**
- **IndexAFP command**
- **PluginMgr command**

AFP Visual Environment commands apply the definitions in an AFP Visual Environment control file to production AFP files. These commands can run on IBM AIX, IBM z/OS, and Microsoft Windows systems.

EditAFP command

EditAFP hides areas, creates bar codes, and masks text in a production AFP file and writes the output to another file. The bar codes, hidden areas, and text masks must be defined in an AFP Visual Environment control file. This command is available only if AFP Editor is installed.

Format

```
EditAFP -c controlfile [-cp codepage] [-fontMapDir fontmapdirectory]
-i inputfile [-log] -o outputfile [-resDir resourcedirectories]
[-snf serialfile[ :barcodedefinition] [-threads nn][-tracetracefile]
[-trclvl level][-ue userexit] [-version]
```

Note

Brackets indicate that the option is not required. Do not type any brackets when you enter the command.

Options

-c `controlfile`

The full path name of the AFP Visual Environment control file that contains the page group and index tag definitions. This option is required.

-cp `codepage`

The default code page. This option is not required.

Values for *codepage* are:

IBM500 An EBCDIC code page (default).

IBM850 An ASCII code page.

-fontMapDir `fontmapdirectory`

The full path name of the directory that contains customized font-mapping files, which override the default font-mapping files. This option is not required. If it is not specified, only the default font-mapping files are used.

-i `inputfile`

The full path name of the input AFP file that you want to process. The input file must contain MO:DCA-P data with no line data. This option is required.

-log

EditAFP writes messages to the `edit.log` file in the directory where the `EditAFP.jar` file is located. If the file exists, EditAFP appends messages to it. This option is not required. If it is not specified, EditAFP writes messages only to the terminal.

`-o outputfile`

The full path name of the file where the output AFP file is written. Any existing data in the file is overwritten. This option is required.

`-resDir resourcedirectory;...`

The full path names of one or more AFP resource directories that contain AFP resources. EditAFP looks for AFP resources in these resource directories before the resource directories identified to AFP Visual Environment when the control file was created. This option is not required.

Specify this option if AFP resources are not inline and are not in the same directories that you identified to AFP Visual Environment when the control file was created.

Separate multiple directories with a semicolon. If a resource directory path name contains a blank, enclose the path name in double quotation marks.

`-snf serialfile[:barcodedefinition];...`

The name of the Intelligent Mail bar code (IMB) serial number file and the name of the bar code definition in the control file that the serial number file applies to. This option is not required. If it is not specified, EditAFP uses the serial number file that was specified in the bar code definition when the control file was created. If you specify more than one serial number file and bar code definition name, separate them with a semicolon as shown in "Examples".

`serialfile`

The full path name of the serial number file.

`barcodedefinition`

The name of the bar code definition. This name is optional. If no bar code definition name is specified, the serial number file is used for all IMBs in the AFP file. If the bar code definition name contains blanks or other special characters, enclose the name in double quotation marks.

Examples:

```
AIX or Linux:
-snf /directory/serialfile
-snf /directory/tofile:"to IMB"
-snf /directory/tofile:"to IMB";/directory/replyfile:"reply IMB"Windows:
-snf C:\directory\serialfile
-snf C:\directory\tofile:"to IMB"
-snf C:\directory\tofile:"to IMB";\directory\replyfile:"reply IMB"
```

`-threads nn`

The number of threads that EditAFP starts. This option is not required. The default is five threads.

Note

If the control file contains bar code definitions for IMBs that use a serial number file and you want the serial numbers in the IMBs to be in sequential order by page group (for example, the serial number in the first page group is 000001, the serial number in the second page group is 000002, and so on) specify one thread. If you specify more than one thread, the serial numbers might not be in sequential order by page group. No matter how many threads you specify, the serial number in each IMB is unique.

Example: `-threads 1`

`-trace tracefile`

The full path name of the file where EditAFP writes trace information. If the file already exists, EditAFP appends to it. Otherwise, EditAFP creates the file. Use this option for diagnostic purposes only. This option is not required.

`-trclvl level`

The level of tracing. This option is not required.

Values for *`level`* are:

debug

Trace at a higher level.

normal

Trace at a lower level (default).

`-ue userexit`

The user exit class name. This option is not required.

`-version`

Displays the version number of EditAFP. This option is not required.

Examples–EditAFP

AIX: This example creates the hidden areas and bar codes defined in the `infile.ctl` control file and writes the output to the `outfile.afp` file:

```
java -jar /install_directory/plugins/EditAFP/EditAFP.jar
-i /directory/infile.afp -o /directory/outfile.afp
-c /directory/infile.ctl
```

Windows: This example creates the hidden areas and bar codes defined in the `infile.ctl` control file and writes the output to the `outfile.afp` file:

```
java -jar \install_directory\plugins\EditAFP\EditAFP.jar
-i \directory\infile.afp -o \directory\outfile.afp
-c \directory\infile.ctl
```

z/OS: This example creates the hidden areas and bar codes defined in the `infile.ctl` control file and writes the output to the `outfile.afp` file. Enter this command on the z/OS UNIX command line:

```
java -jar /install_directory/plugins/EditAFP/EditAFP.jar
-i /directory/infile.afp -o /directory/outfile.afp
-c /directory/infile.ctl
```

For *install_directory*, use the directory where you installed AFP Visual Environment.

For *directory*, use the directory where the file is located.

Exit codes

0

EditAFP was successful.

<0

EditAFP was not successful. No output file was created, or the output file is incomplete. EditAFP writes error messages to **stderr** and in the log file.

IndexAFP command

IndexAFP creates page groups and index tags in a production AFP file and writes the output to another file. The page groups and index tags must be defined in an AFP Visual Environment control file. This command is available only if AFP Indexer is installed.

Format

```
IndexAFP -c controlfile [-cp codepage] [-docIdx indexfile][-fontMapDir fontmapdirectory]
[-stats][-te triggerexit] [-threads nn] [-trace tracefile] [-trclvl level]
[-ue userexit][-version]
```

Note

- Brackets indicate that the option is not required. Do not type any brackets when you enter the command.

8

Options

-c *controlfile*

The full path name of the AFP Visual Environment control file that contains the page group and index tag definitions. This option is required unless the **-te** option is specified.

-cp *codepage*

The default code page. This option is not required.

Values for *codepage* are:

IBM500

An EBCDIC code page (default).

IBM850

An ASCII code page.

-docIdx *indexfile*

The full path name of the document index file that you want AFP Visual Environment to create. Any existing data in the file is overwritten.

This option is not required. If it is not specified, the document index file is not created.

-fontMapDir *fontmapdirectory*

The full path name of the directory that contains customized font-mapping files, which override the default font-mapping files.

This option is not required. If it is not specified, only the default font-mapping files are used.

-formDef *formdefinition*

The full path name of the form definition that contains the active medium map for the first page in each page group. IndexAFP writes the name of the active medium map in the document index file, and IndexAFP includes the form definition in the resource group file.

This option is not required. If this option is not specified, IndexAFP uses the medium map name in the first inline form definition or, if no inline form definitions exist, in the first Invoke Medium Map (IMM) structured field. If no inline form definitions or IMM structured fields exist, IndexAFP uses a null name to indicate that the first medium map in the form definition is the active medium map for the first page.

Example: `-formDef F1USER10`

-i *inputfile*

The full path name of the input AFP file that you want to process. The input file must contain MO:DCA-P data with no line data.

This option is required.

-log

IndexAFP writes messages to the index.log file in the directory where the IndexAFP.jar file is located. If the file exists, IndexAFP appends messages to it.

This option is not required. If it is not specified, IndexAFP writes messages only to the terminal.

-o *outputfile*

The full path name of the file where the output AFP file is written. Any existing data in the file is overwritten.

This option is required.

-resDir *resourcedirectory;...*

The full path names of one or more AFP resource directories that contain AFP resources. IndexAFP looks for AFP resources in these resource directories before the resource directories identified to AFP Visual Environment when the control file was created. This option is not required.

Specify this option if AFP resources are not inline and are not in the same directories that you identified to AFP Visual Environment when the control file was created.

Separate multiple directories with a semicolon. If a resource directory path name contains a blank, enclose the path name in double quotation marks.

-resGrp *resourcegroupfile*

The full path name of the resource group file that you want IndexAFP to create. Any existing data in the file is overwritten. This option is not required. If it is not specified, IndexAFP does not create a resource group file.

If IndexAFP cannot find a resource, it creates the resource file without the missing resource and writes a message identifying the missing resource to **stderr** and in the log file.

-stats

IndexAFP writes statistics to the terminal.

This option is not required.

-te *triggerexit*

The trigger exit class name.

This option is not required.

-threads *nn*

The number of threads that IndexAFP starts. The default is 5 threads.

This option is not required.

-trace *tracefile*

The full path name of the file where IndexAFP writes trace information. If the file already exists, IndexAFP appends to it. Otherwise, IndexAFP creates the file. Use this option for diagnostic purposes only.

-trclvl *level*

The level of tracing. This option is not required.

Values for *level* are:

debug

Trace at a higher level.

normal

Trace at a lower level (default).

-ue *userexit*

The user exit class name.

This option is not required.

-version

Displays the version number of IndexAFP.

This option is not required.

Examples–IndexAFP

AIX: This example creates page groups and index tags defined in the `infile.ctl` control file and writes the output to the `outfile.afp` file:

```
java -jar /install_directory/plugins/IndexAFP/IndexAFP.jar-i /directory/infile.afp -o /dir
```

Windows: This example creates page groups and index tags defined in the `infile.ctl` control file and writes the output to the `outfile.afp` file:

```
java -jar \install_directory\plugins\IndexAFP\IndexAFP.jar-i \directory\infile.afp -o \dir
```

z/OS: This example creates page groups and index tags defined in the `infile.ctl` control file and writes the output to the `outfile.afp` file. Enter this command on the z/OS UNIX command line:

```
java -jar /install_directory/plugins/IndexAFP/IndexAFP.jar-i /directory/infile.afp -o /dir
```

For *install_directory*, use the directory where you installed AFP Visual Environment.

For *directory*, use the directory where the file is located.

Exit codes

0

IndexAFP was successful.

<0

IndexAFP was not successful. No output file was created, or the output file is incomplete. IndexAFP writes error messages to stderr and in the log file.

PluginMgr command

PluginMgr can run both the EditAFP and IndexAFP commands and write the output to an AFP file. Or, PluginMgr can run only the command that you specify.

It is more efficient to use PluginMgr to run the EditAFP and IndexAFP commands at the same time than to run them separately. However, if you want IndexAFP to create a resource group file, you must run the IndexAFP command.

Format

```
PluginMgr  -c  controlfile [ -docIdx indexfile ] [-edit [ :options ;]]
[-fontMapDir fontmapdirectory] [-formDef formdefinition]
-i inputfile [ -index [ : options ; ] ] -o outputfile[-pluginDir plugindirectory ] [ -resD
```

Note

Brackets indicate that the option is not required. Do not type any brackets when you enter the command.

Options

-c controlfile

The full path name of the AFP Visual Environment control file that contains the page group and index tag definitions. This option is required.

-docIdx indexfile

The full path name of the document index file that you want AFP Visual Environment to create. Any existing data in the file is overwritten. This option is not required. If it is not specified, the document index file is not created.

-edit[:options ;]

Indicates that PluginMgr is to run the EditAFP command, and specifies EditAFP options. Valid EditAFP *options* are:

-snf serialfile[:barcodedefinition];...

The name of the Intelligent Mail bar code (IMB) serial number file and the name of the bar code definition in the control file that the serial number file applies to. If -snf is not specified, EditAFP uses the serial number file that was specified in the bar code definition when the control file was

created. If you specify more than one serial number file and bar code definition name, separate them with a semicolon as shown in “Examples”.

serialfile

The full path name of the serial number file.

barcodedefinition

The name of the bar code definition. If no bar code definition name is specified, the serial number file is used for all IMBs in the AFP file. If the bar code definition name contains blanks or other special characters, enclose the name in double quotation marks.

-ue

The user exit class name.

If you specify EditAFP options, type a colon before the options and a semi-colon after the options, as shown in “Examples”. If you do not specify any EditAFP options, do not type the colon and semi-colon.

Note

The -edit and -index options interract in this way:

- If neither -edit nor -index is specified, PluginMgr can run both IndexAFP and EditAFP, depending on which definitions are in the control file. If the control file contains definitions that AFP Indexer created, PluginMgr runs AFPIndex first because definitions that AFP Editor created might depend on page groups and index tags that AFP Indexer created.
- If -edit is specified but not -index, PluginMgr runs only EditAFP.
- If -index is specified but not -edit, PluginMgr runs only IndexAFP.

Examples:

```
-edit
-edit:-snf /directory/serialfile;
-edit:-snf /directory/tofile:"to IMB";/directory/replyfile:"reply IMB";
```

-fontMapDir `fontmapdirectory`

The full path name of the directory that contains customized font-mapping files, which override the default font-mapping files. This option is not required. If it is not specified, only the default font-mapping files are used.

-formDef `formdefinition`

The full path name of the form definition that contains the active medium map for the first page in each page group. PluginMgr writes the name of the active medium map in the document index file and includes the form definition in the resource group file.

This option is not required. If this option is not specified, PluginMgr uses the medium map name in the first inline form definition or, if no inline form definitions exist, in the first Invoke Medium Map (IMM) structured field. If no inline form definitions or IMM structured fields exist, PluginMgr uses a null name to indicate that the first medium map in the form definition is the active medium map for the first page.

Example: `-formDef F1USER10`

-i `inputfile`

The full path name of the input AFP file that you want to process. The input file must contain MO:DCA-P data with no line data. This option is required.

-index [:options ;]

Indicates that PluginMgr is to run the IndexAFP command, and specifies IndexAFP options. Valid IndexAFP *options* are:

-te

The trigger exit class name.

-ue

The user exit class name.

If you specify IndexAFP options, type a colon before the options and a semi-colon after the options, as shown in "Examples". If you do not specify any IndexAFP options, do not type the colon and semi-colon.

Note

The -edit and -index options interract in this way:

- If neither -edit nor -index is specified, PluginMgr can run both IndexAFP and EditAFP, depending on the definitions in the control file. If the control file contains definitions that AFP Indexer created, PluginMgr runs AFPIndex first because definitions that AFP Editor created might depend on page groups and index tags that AFP Indexer created.
- If -edit is specified but not -index, PluginMgr runs only EditAFP.
- If -index is specified but not -edit, PluginMgr runs only IndexAFP.

Examples:

```
-index
-index:-ue /directory/userexit;
-index:-ue /directory/userexit; -edit
```

-o outputfile

The full path name of the file where the output AFP file is written. Any existing data in the file is overwritten. This option is required.

-pluginDir plugindirectory

The full path name of the directory that contains the IndexAFP and EditAFP directories. Specify this option only if you moved the IndexAFP and EditAFP directories to a different directory after installation. This option is not required. If it is not specified, the default directory is `./plugins`.

-resDir resourcedirectory ;...

The full path names of one or more AFP resource directories that contain AFP resources. PluginMgr looks for AFP resources in these resource directories before the resource directories identified to AFP Visual Environment when the control file was created. This option is not required.

Specify this option if AFP resources are not inline and are not in the same directories that you identified to AFP Visual Environment when the control file was created.

Separate multiple directories with a semicolon. If a resource directory path name contains a blank, enclose the path name in double quotation marks.

-trace tracefile

The full path name of the file where PluginMgr writes trace information. If the file already exists, PluginMgr appends to it. Otherwise, PluginMgr creates the file. Use this option for diagnostic purposes only.

`-trclvl level`

The level of tracing. This option is not required.

Values for *`level`* are:

debug

Trace at a higher level.

normal

Trace at a lower level (default).

`-version`

Displays the version number of PluginMgr. This option is not required.

Examples–PluginMgr

AIX: This example applies all the definitions in the `infile.ctl` control file and writes the output to file `outfile.afp`:

```
java -jar /install_directory/PluginMgr.jar
-i /directory/infile.afp -o /directory/outfile.afp
-c /directory/infile.ctl
```

Windows: This example applies all the definitions in the `infile.ctl` control file and writes the output to file `outfile.afp`:

```
java -jar \install_directory\PluginMgr.jar
-i \directory\infile.afp -o \directory\outfile.afp
-c \directory\infile.ctl
```

z/OS: This example applies all the definitions in the `infile.ctl` control file and writes the output to file `outfile.afp`. Enter this command on the z/OS UNIX command line:

```
java -jar /install_directory/PluginMgr.jar
-i /directory/infile.afp -o /directory/outfile.afp
-c /directory/infile.ctl
```

For *`install_directory`*, use the directory where you installed AFP Visual Environment.

For *`directory`*, use the directory where the file is located.

Exit codes

0 PluginMgr was successful.

<0 PluginMgr was not successful. No output file was created, or the output file is incomplete. Error messages are written to **stderr**.

9. Configuration files

- **Font mapping files**
- **IMB serial number file**
- **Document index file**
- **Resource group file**

AFP Visual Environment configuration files let you customize font-mapping and specify the starting serial number for Intelligent Mail bar codes (IMBs).

Font mapping files

AFP Visual Environment lets you customize installation font-mapping files to map custom AFP fonts to Java fonts. In the font-mapping files, you can also specify the default Java font that is used when an AFP font is not mapped to a Java font.

AFP Visual Environment provides sample installation font-mapping files that you can edit.

CharacterSets.properties file

The `CharacterSets.properties` file maps an AFP character set to corresponding font attributes or an AFP font global identifier (FGID) to a corresponding Java font name and style. You can add custom AFP character sets to this file.

The sample file that you can edit is `CharacterSets.properties`.

Purpose

The `CharacterSets.properties` file lets you specify which font attributes to use for custom AFP font character sets or which FGIDs to use for Java fonts.

Format

Each line in the file has one of these formats:

-

```
characterset=fgid,height,width,strikeover,underline
```

  For example:

```
C?H200A0=2304,110,73,0,0
```

-

```
fgid=name,style
```

  For example:

```
2304=Lucinda Sans Regular,PLAIN
```

characterset

The 8-character identifier for the AFP character set. The second character in standard AFP character set names indicates the character rotation. You can use a question mark (**?**) as a wildcard character for the second character of the character set name. The **?** means that the identifier applies to all rotations.

Note

To change which Java font is used when an AFP character set is not mapped to a Java font, specify `DEFAULT` for the identifier of the AFP character set. If `DEFAULT` is specified for more than one entry in the file, the last entry is used.

fgid

A unique value in this range, 3840 to 4095 or 65260 to 65534, for the AFP font global identifier, which indicates the type family, typeface, and sometimes the point size of the character set.

height

The vertical size of the character expressed in tenths of a point. For example, a 9-point font has a height of 90. Valid values are whole numbers from 1 to 990.

name

The name of the corresponding Java font, such as: `Lucida Bright`, `Lucida Sans Regular`, or `Lucida Sans Typewriter`.

strikeover

A font whose characters all have a line, parallel to the character baseline, placed over the middle of the character. The values are 0=No and 1=Yes.

style

The style of the Java font. Valid values are: `BOLD`, `BOLD|ITALIC`, `ITALIC`, and `PLAIN`.

underline

A font whose characters all have a line, parallel to the character baseline, placed under the character. The values are 0=No and 1=Yes.

width

The average horizontal size of the characters in 1440th of an inch. Valid values are whole numbers from 1 to 99; however, the value is currently ignored.

9

Syntax rules

- Start each line in column one.
- A pound sign (#) in column one indicates the line is a comment.
- All values are case-sensitive.
- All parameters are positional.
- Blanks are not allowed unless the font name contains a blank (for example, Lucida Bright).

CodedFonts.properties file

The `CodedFonts.properties` file maps an AFP coded font to its AFP character set and AFP code page.

You can edit this file if you created or modified a code page or a character set and linked them in a coded font or if you have a different code page and character set pair that you linked in a coded font. The sample file that you can copy and edit is `CodedFonts.properties`.

Purpose

The `CodedFonts.properties` file lets you specify the AFP coded font for custom AFP code pages and character sets.

Format

Each line in the file has this format:

```
codedfont=characterset,codepage
```

For example:

```
X?H210AC=C?H200A0,T1V10500
```

codedfont

The identifier for the AFP coded font, which joins the character set and the code page. The second character in standard AFP coded font names indicates the character rotation. You can use a question mark (**?**) as a wildcard character for the second character of the coded font name. The **?** means that the identifier applies to all rotations.

Note

To change which AFP character set and code page is used when an AFP coded font is not mapped to an AFP character set and code page, specify `DEFAULT` for the identifier of the AFP coded font. If `DEFAULT` is specified for more than one entry in the file, the last entry is used.

characterset

The 8-character identifier for the AFP character set. The second character in standard AFP character set names indicates the character rotation. You can use a question mark (**?**) as a wildcard character for the second character of the character set name. The **?** means that the identifier applies to all rotations.

codepage

The AFP code page name.

Syntax rules

- Start each line in column one.
- A pound sign (#) in column one indicates the line is a comment.
- All values are case-sensitive.
- All parameters are positional.
- Blanks are not allowed.

CodePages.properties file

The `CodePages.properties` file maps an AFP code page or a Java character set encoding to an AFP code page global identifier (CPGID). You can add custom code pages to this file. The sample file that you can edit is `CodePages.properties`.

Purpose

The `CodePages.properties` file lets you specify which AFP code page global identifier (CPGID) to use for custom AFP code pages or Java character sets.

Format

Each line in the file has this format:

```
name=cpgid,[DBCS|SBCS]
```

For example:

```
T1000259=259,SBCS
```

or

```
IBM500=259,DBCS
```

cpgid

The code page global identifier (CPGID) for the AFP code page or Java character set.

DBCS|SBCS

Optional indicator for double-byte character set (DBCS) or single-byte character set (SBCS). The default is SBCS.

name

The AFP code page name or the Java character set name.

Syntax rules

- Start each line in column one.
- A pound sign (#) in column one indicates the line is a comment.
- All values are case-sensitive.
- All parameters are positional.
- Blanks are not allowed.

SampleCodePointMap.cp file

The `SampleCodePointMap.cp` file maps code points in a custom AFP code page to Unicode code points. You can use this file to create a code point map file for each AFP code page that does not use standard Unicode code points.

The name of the file must contain the name of the code page. For example, if the code page name is T1000259, name the file `T1000259.cp`. The sample file that you can edit and rename is `SampleCodePointMap.cp`.

Purpose

The `SampleCodePointMap.cp` file lets you map code points in a custom AFP code page to Unicode code points so that AFP Visual Environment can display the text correctly. For example, the Unicode code point for a space is hexadecimal "0020". If the AFP code page uses a code point for a space, such as hexadecimal "0040", map code point "0040" to code point "0020".

For charts showing Unicode code points, see http://unicode.org/charts/.

Format

Each line in the file has this format:

```
AFPcodepoint=Unicodecodepoint
```

For example:

```
 0040 0020
```

AFPcodepoint

The hexadecimal code point in the custom AFP font.

Unicodecodepoint

The corresponding hexadecimal Unicode code point.

Syntax rules

- Start each line in column one.
- A pound sign (#) in column one indicates the line is a comment.
- Blanks are allowed.

IMB serial number file

The Intelligent Mail barcode (IMB) serial number file contains the serial number that you want AFP Editor to encode in the first IMB that it creates in an AFP file.

Purpose

The IMB serial number file lets you create barcodes that contain sequential serial numbers.

Format

The file contains these lines:

```
digits=6|9
serial number
```

For example:

```
digits=9
000000001
```

digits=6|9

The number of digits in the serial number. Valid values are:

6

The serial number contains 6 digits. When the serial number reaches 999999, the serial number wraps to 000001. This is the default if digits is not specified.

9

The serial number contains 9 digits. When the serial number reaches 999999999, the serial number wraps to 000000001.

serial_number

The serial number to encode in the first IMB in an AFP file.

Syntax rules

- Start each line in column one.
- The file can contain only 2 lines. The lines can be in any order.
- No comments are allowed.

Document index file

The document index file contains the index tags that are in an AFP file. AFP Visual Environment can create this file when it processes a production AFP file.

Purpose

The document index file lets you use archival and retrieval applications to retrieve a page group within the AFP file based on its index values.

Format

The format of this file is similar to the document index file that the AFP Conversion and Indexing Facility (ACIF) program creates. However, the resource group file that AFP Visual Environment creates contains only group-level Index Element (IEL) structured fields; it does not contain page-level IELs. The format is:

```
BDI
IEL
TLE
EDI
```

BDI Begin Document Index (BDI) structured field.

IEL Index Element (IEL) structured field. The IEL structured field associates the index tags with a page group in the output AFP file.

TLE Tag Logical Element (TLE) structured field. The TLE structured fields in the document index file are the same as those in the AFP file.

EDI End Document Index (EDI) structured field.

Resource group file

The resource group file contains all the resources that an AFP file references and that AFP Visual Environment found inline or in an AFP resource directory. AFP Visual Environment can create this file when it processes a production AFP file.

Purpose

The resource group file lets you print a file on a system that does not contain the AFP resources by concatenating the AFP file and its resource group file.

Format

The format of this file is similar to the resource group file that the AFP Conversion and Indexing Facility (ACIF) program creates. However, the resource group file that AFP Visual Environment creates does not contain the name of the AFP file. The format is:

```
BRG
BRS
AFP resource
ERS
ERG
```

BRG Begin Resource Group (BRG) structured field

BRS Begin Resource (BRS) structured field

AFP resource The AFP resource

ERS End Resource (ERS) structured field

ERG End Resource Group (ERG) structured field

10. Accessibility

Accessibility features help users who have a physical disability, such as restricted mobility or limited vision, use information technology products successfully.

The accessibility features in AFP Visual Environment let users:

- Operate some features using only the keyboard.
- Customize some display attributes, such as font size.

AFP Visual Environment documentation is accessible using screen readers on the RICOH Software Information Center at https://help.ricohsoftware.com/swinfocenter/.

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