

## Version 3.0, User's Guide

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# KeyesOverlay

## Introduction

KeyesOverlay can be used to convert standard \*SCS spooled files into PDF documents, in either monochrome (black & white) or full color. It can be used to create individual documents, such as Invoices or Purchase Orders, or it can be used to prepare large reports, complete with PDF Bookmarks to aid in user navigation.

KeyesOverlay does not function by itself. It is used in conjunction with KeyesMail, KeyesPDF or KeyesArchive. It will enhance one or all of these packages, allowing them to create fancier PDF files for printing, distribution, web publication or e-mailing.

There are no KeyesOverlay API's. After creating a map member, for a document, you will code this member name in the Front Side Overlay parameter of the spooled file attributes. Calling any of the KeyesMail, KeyesPDF or KeyesArchive programs to create a PDF will automatically utilize KeyesOverlay to fancy up your documents, with overlays, logos, colors, fonts, and/or bookmarks.

There are 3 main parts to the KeyesOverlay system:

- **ImageMaker** is a print driver that you can use to create images & overlays from any PC document.
- **MappingTool** is a Java program that you will use on a PC to develop mapping entries for your spooled files. It is a GUI tool that will help you design the PDF document that will be created from your spooled files.
- **KeyesOverlay** programs run on the iSeries. These programs follow your mapping instructions to convert spooled files into completed PDF documents.

## KeyesOverlay Menu

The KeyesOverlay system can be defined using a menu. After the installation has completed (described on the following pages), you may use this menu.

### Displaying the Menu:

1. Be sure that the KeyesOverlay Program library is on your library list. The library is usually called KOLIB.  
Enter: ADDLIBLE kolib
2. Display the KeyesOverlay Menu.  
Enter: GO KOMENU

## Installation Instructions

### Sign on as a Security Officer

The following installation procedure will require that you have \*ALLOBJ authority, when you restore the library.

### Copying KeyesOverlay Programs to a Library

You may place the **KeyesOverlay** programs into any library that you wish. We recommend that you install these programs in its own library called **KOLIB**. Be aware that you will have to add this new library to your KeyesMail, KeyesPDF or KeyesArchive library lists, for it to be available to those systems.

#### Restoring Instructions:

1. If you have a CD or tape, load it into the appropriate drive.
2. Restore the programs from the CD, tape, or a Save File.

*Installing for the first time:*

```
Enter: RSTLIB SAVLIB(KO03LIB) DEV(device)
      MBROPT(*ALL) RSTLIB(KOLIB)
```

*Updating an existing system:*

```
Enter: RSTLIB SAVLIB(KO03LIB) DEV(device)
      MBROPT(*ALL) RSTLIB(KOUPD)
```

*device* is the name of the CD, tape device, or \*SAVF. It is usually called OPT01 for CD drives or TAP01 for tape drives.

### Updating an Existing System

This program will update or add the KeyesOverlay programs to an existing program library (usually called KOLIB). Choose the desired library name to be updated and code it in the first parameter, below.

1. Prompt the KeyesOverlay Update program.  
Enter: KOUPDATE then press F4 (Prompt)
2. Fill in the appropriate library names and press Enter:  
KeyesOverlay Program library. . . kolib  
KeyesOverlay Update library. . . . koupd
3. Follow the instructions for *Restoring the PC Tools Save File*, found on the following pages, to update the tools on your IFS.
4. If this was a change to a new version number of KeyesOverlay, you may have to install a new license number, as described on the following page.

## Enter your KeyesOverlay License number

The KeyesOverlay programs will not function until they are activated with a license number. The license number is based on your iSeries or AS/400 serial number.

You must contact Computer Keyes to get a valid license number. You may call, fax or e-mail your request. Be sure to specify your name, company, and other contact information along with the serial number of your iSeries (AS/400).

**Note:** You may use DSPSYSVAL QSRLNBR to display the serial number of your computer.

### Recording the KeyesOverlay License Number:

1. Switch your current library to where your KeyesOverlay programs were installed. This is usually KOLIB.

Enter: CHGCURLIB *kolib*

2. Start up the program that will record your KO License.

Enter: KOLICENSE

3. Key your KO License number in the field provided, then press Enter.

### KeyesOverlay License Number:

Permanent: \_\_\_\_\_ S# - \_\_\_\_\_

Temporary: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Installing the PC Tools

Tools for your PC are shipped in a Save File called PCTOOLS within the KeyesOverlay library. The tools consist of **ImageMaker** a print driver that can create images and overlays from any PC document and **MappingTool** which is a Java program with a GUI interface that will help you create mapping entries for your spooled files.

These tools will be installed on your iSeries in the IFS, so that they can be shared by anyone developing PDF documents. You may place the tools in any directory on the IFS, however, we recommend that you place them in a new directory called **/KOVERLAY** that will be created in the Root directory.

The following restore procedure can be run for either installing or updating the PC Tools on the IFS.

### Restoring the PC Tools Save File:

1. Prompt the Restore PC Tools program.  
Enter: KORSTPCT then press F4 (Prompt)
2. Fill in the desired **To path** name and press Enter:  
Save file name ..... PCTOOLS  
From path ..... '/KO03tools'  
To path ..... '/KOVERLAY'

The folder (koverlay) will be created in your IFS, if it does not already exist, and the new tools will be restored into the folder.

## Defining a NetServer File Share

In order to access the PC Tools from a PC you will need to define a File Share for the **KOVERLAY** folder on your iSeries. This can be done using the Operations Navigator for your iSeries.

### Using Operations Navigator:

1. Start the **Operations Navigator** from your PC.
2. Under **My Connections** select your iSeries computer by double clicking.
3. Double click **File Systems**, then **Integrated File System**.
4. Open the **Root** directory by double clicking on it. You should see the **KOVERLAY** directory listed under the Root directory.
5. Right click on **KOVERLAY** and select **Permissions**.
6. On the **Permissions** screen set the desired permissions for the user's that will need access to the PC Tools, and press **OK**.
7. Right click on **KOVERLAY** and select **Sharing / New Share...**
8. On the **NetServer File Share** screen change the **Access** parameter to **Read/Write** then press the **OK** button.

This should give you a new shared folder in your PC's Network.

## Defining a Network Drive

In order to access the PC Tools each PC will need to define a Network Drive letter (**K:**) that points to the **koverlay** folder on your iSeries.

### Mapping the K: drive:

1. Right click on **My Network Places** or **Network Neighborhood** on your PC, then select **Map Network Drive**.
2. Select the **K:** drive. Map this drive letter to your KeyesOverlay directory on the IFS (`\\Qsxxxxxxx\koverlay`). You should be able to use the Browse button to find the **koverlay on iSeries** folder that was defined using the Operations Navigator and select it.

## Making a Shortcut to MappingTool

After mapping the **K:** drive, as defined above, you can make a shortcut to **MappingTool** and place this on your desktop.

### Making a Shortcut:

1. Double click **My Computer** on your PC.
2. Double click on the **koverlay on 'iseries'** drive that was mapped to the **K:** drive in your Network Drives list. A list of folders should appear.
3. Double click on the **MapTool** folder.
4. Grab the file called **MapTool.bat** with your right mouse button. Drag this to your desktop and release it. Select **Create Shortcuts here**.

This new shortcut will be used to start **MappingTool**.

## Installing MappingTool on your PC

MappingTool is typically run directly from the mapped **K:** drive. But, if desired, you can install the tool on your local **C:** drive, to run it from there.

1. Create a new directory in your C: drive. We would recommend that you might call it C:\KOVERLAY.
2. Locate the MapTool folder on the **K:** drive.
3. Drag the entire MapTool folder from the **K:** drive to your **C:** drive to copy all the objects within the folder.
4. Follow the **Making a Shortcut** instruction #4 above, to make a shortcut to the MappingTool from the **C:** drive.

## **Java and Memory Requirements**

**MappingTool** will require a fairly new version of the Java Runtime Environment installed on your machine. You should have at least J2SE v5.0 JRE installed. You can see the Java Version using *Control Panel/Add or Remove Programs*. If you need to update Java, you should first remove the old version, then get new software from [<http://java.sun.com>].

MappingTool was designed to run on PC's with a minimum of 256Mb of main memory installed. If you have too little memory, the program may run extremely slow. It will also run very slowly, if you try to use an image that is too large or was generated with too high of a resolution.

## **Installing ImageMaker 'the Print Driver'**

After mapping the **K:** drive, as defined above, **ImageMaker** can be installed on your PC. This print driver will be used to create images and overlays for **MappingTool** and **KeyesOverlay**. You can print to this driver from any PC application, such as a word processor or other graphics program to make TIFF images.

### **Installing ImageMaker:**

1. Double click **My Computer** on your PC.
2. Double click on the **koverlay on 'iseries'** drive that was mapped to the **K:** drive in your Network Drives list.
3. Double click on the **ImageMaker** folder to open it up.
4. Double click on the **Setup.exe** program in this folder.

Follow the instructions on the screen to complete the installation.

## Mapping a Document

The following instructions will read like a tutorial. It will take you from the beginning to the end of a complete mapping of a spooled file into a PDF document. Detailed instructions for each of the programs described in these instructions can be found later in this manual.

For illustration purposes, we will be working with the following spooled file:

```

Computer Keyes
21929 Makah Road
Woodway, Wa 98020
(425) 776-6443
Invoice #
K5224
Invoice Date: 01/05/08
Ship to:
Attn: Data Processing
Way Ahead, Inc.
1234 Fancy Street
Bigtown, WA 98765
Sold to: (If different)

Order No. Date Shipped Shipped Via Terms
-----
Verbal 01/05/08 Web download 30 Day Free Trial

Qty Description Unit Price Total
-----
1 KeyesFax for X Fax Lines xxxxx.xx xxxxx.xx
1 KeyesMail for XX Mailboxes xxxxx.xx xxxxx.xx
1 KeyesPDF conversion utility xxxxx.xx xxxxx.xx
1 KeyesOverlay - Full color overlays xxxxx.xx xxxxx.xx
1 KeyesArchive - Save & Index spoolfiles xxxxx.xx xxxxx.xx

Free Technical Support - (800) 356-0203
support@ckeyes.com

TOTAL AMOUNT DUE $ xxxxx.xx
    
```

KeyesOverlay will be used to create the following document:



**Computer Keyes**  
21929 Makah Road  
Woodway, Wa 98020  
(425) 776-6443

# INVOICE

## K5224

Invoice Date: 01/05/08

**Ship To:** Attn: Data Processing  
Way Ahead, Inc.  
1234 Fancy Street  
Bigtown, WA 98765

**Sold To:** (If other than Ship To)

| Your Order No.  | Date Shipped                           | Shipped Via  | Terms              |  |
|---|--|--------------|--------------------|--|
| Verbal  | 01/05/08                               | Web download | 30 Day Free Trial  |  |
| Quantity  | Description                            | Unit Price   | Total              |  |
| 1   | KeyesFax for X Fax Lines               | xxxxx.xx     | xxxxx.xx           |  |
| 1   | KeyesMail for XX Mailboxes             | xxxxx.xx     | xxxxx.xx           |  |
| 1   | KeyesPDF conversion utility            | xxxxx.xx     | xxxxx.xx           |  |
| 1   | KeyesOverlay - Full color overlays     | xxxxx.xx     | xxxxx.xx           |  |
| 1   | KeyesArchive - Save & Index spoolfiles | xxxxx.xx     | xxxxx.xx           |  |
| Free Technical Support - (800) 356-0203<br>support@ckeyes.com |  |              |                    |  |
| <b>Total Amount Due</b>                                       |  |              | <b>\$ xxxxx.xx</b> |  |

*Thank You!*

## Complete the Installation

Each of the following installation steps (from the previous pages) must be completed prior to working with the Mapping Tool.

1. Ensure that the KeyesOverlay package has been completely installed on your iSeries, in the KOLIB library.
2. Ensure that the /**KOVERLAY** directory has been installed on the IFS and that it has been given the correct Permissions and Share definitions so that you can access it from your PC.
3. Define a **K:** drive in your PC Network that points to the /**KOVERLAY** directory in the IFS.
4. Make a shortcut to **MappingTool** on your desktop and install **ImageMaker** (the print driver) on your PC.

## Create an Overlay

KeyesOverlay can use most any type of Image or PC document as an overlay. You can find instructions for converting various types of documents to an overlay, later in this manual. You can also find instructions on how to crop an image to extract a smaller piece of it, such as a Logo or a Signature.

We have provided a print driver that allows you to generate new overlays using any PC application that you are comfortable with. You can, for example, use any word processor or graphical program on your PC to design a graphical page to be used as an overlay.

1. Create the images or overlays that you wish to use on the PDF pages, using any PC application.
2. Print your overlay images to **ImageMaker**. The images will be placed in the **K:\Images** directory, by default.

We created and printed the following overlay using a word processor:

**Computer Keyes**  
21929 Makah Road  
Woodway, Wa 98020  
(425) 776-6443

**INVOICE**

Invoice Date:

Ship To:  Sold To: (if other than Ship To)

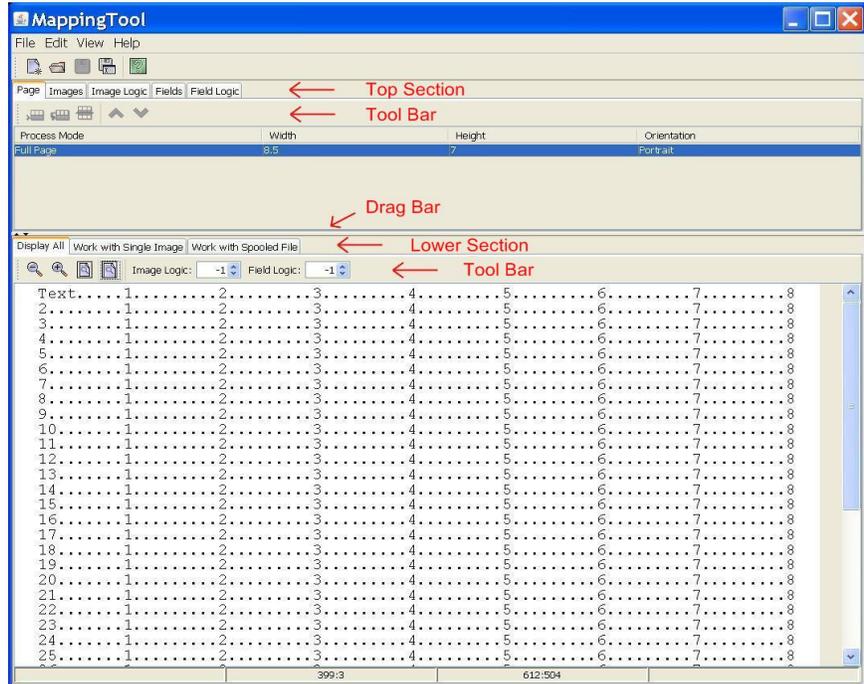
| Your Order No.   | Date Shipped | Shipped Via | Terms |
|------------------|--------------|-------------|-------|
|                  |              |             |       |
| Quantity         | Description  | Unit Price  | Total |
|                  |              |             |       |
| Total Amount Due |              |             |       |

*Thank You!*

## Start the Mapping Tool

1. Start the Mapping Tool from the shortcut that was placed on your desktop during the installation process.

Let's get acquainted with the Mapping Tool. The Mapping Tool has a split screen allowing you to create mapping entries on the top part of the screen while viewing the completed document on the lower portion of the screen.



There are five tabs in the top section and three tabs in the lower section of the screen. You can adjust the relative size of the two sections using a mouse by dragging the bar between the sections.

### Top section:

- Page - Defines the page size, rotation and processing mode
- Images - Places overlays or images on the page
- Image Logic - Sets Logic numbers for placing images on a page
- Fields - Maps spooled file text or constants to the page
- Field Logic - Sets Logic numbers for processing the text on a page

### Lower section:

- Display All - Shows the completed page or lines (for line mode)
- Work with Single Image - Can alter, compress and rename images
- Work with Spooled File - Selects printer data to be mapped

### Tool bars:

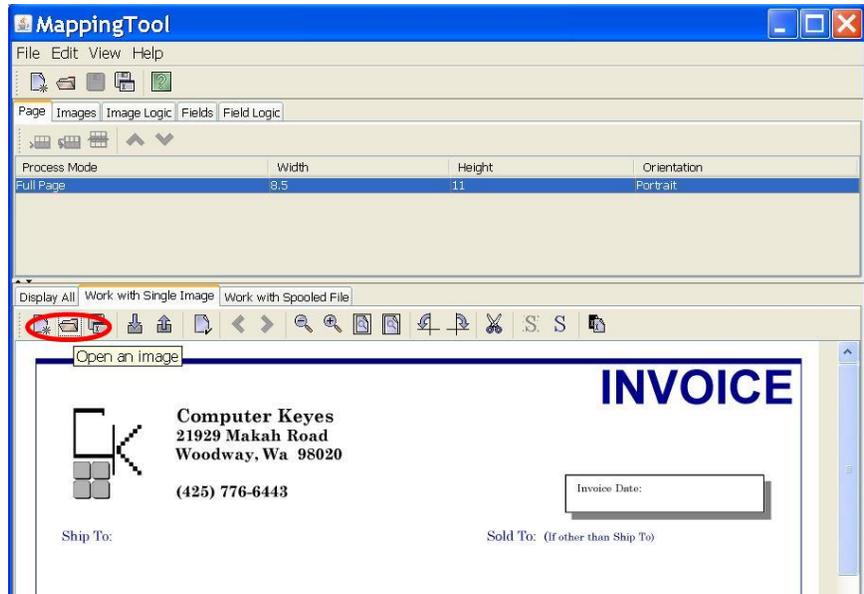
There are tools available on a **tool bar** for each of the tabbed sections in the Mapping Tool. You will use these tools to perform various tasks.

2. Select the *Page* tab, in the top section of the screen.
3. Define the page size for the PDF document and the orientation.

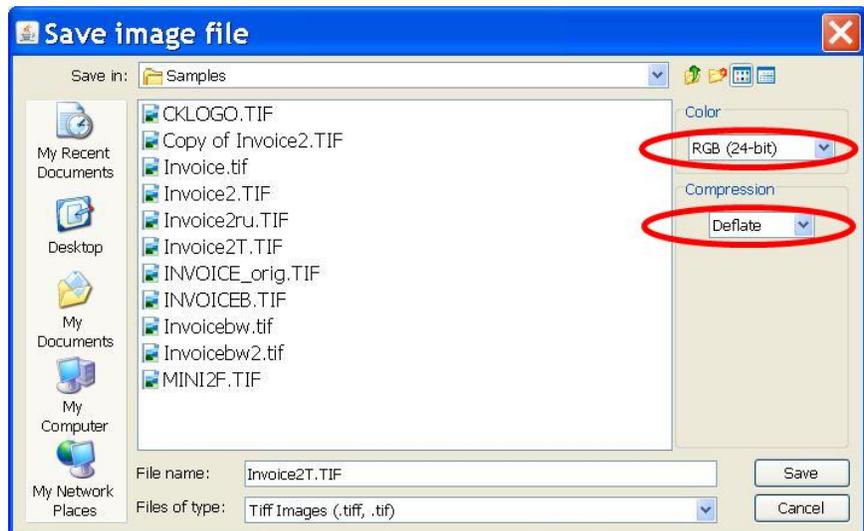
## Compress and Map the Overlay

The images used by KeyesOverlay must be compressed properly, in order to function efficiently within a PDF document. The Mapping Tool will do this for you.

1. Select the *Work with Single Image* tab, in the lower section of the screen.
2. Use the **Open** tool to open the overlay image that you either printed using the ImageMaker print driver, or gathered from another application.

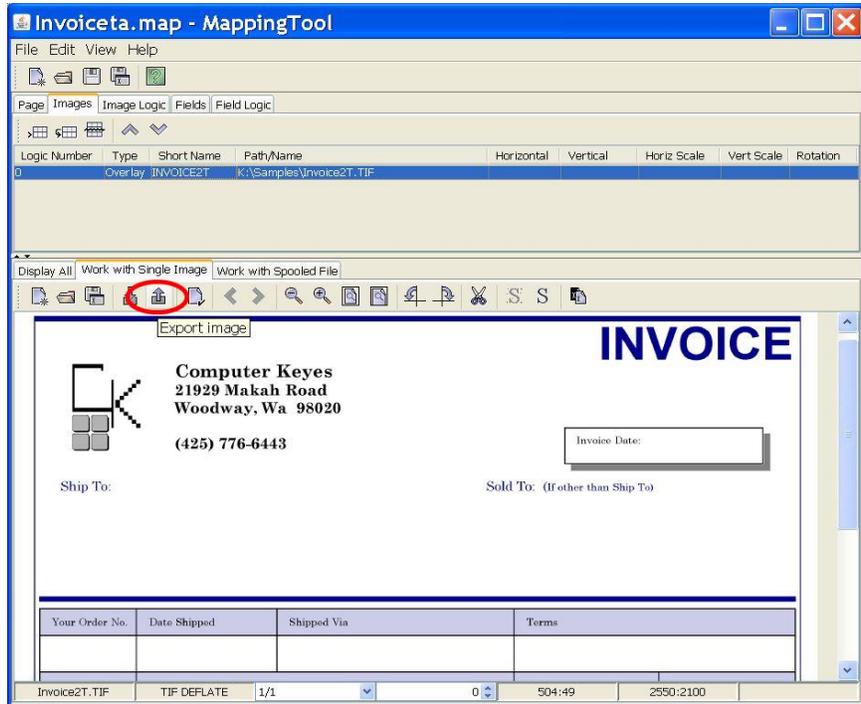


3. Use the **Save As** tool from the tool bar to save the image to the **K:\Images** directory, with the appropriate color characteristics and compression. For color images be sure to choose **RGB (24-bit)**. For monochrome images, you will want **B/W (1-bit)**. We recommend that you save most images using **Deflate** compression, as this is usually the most efficient for PDF documents.

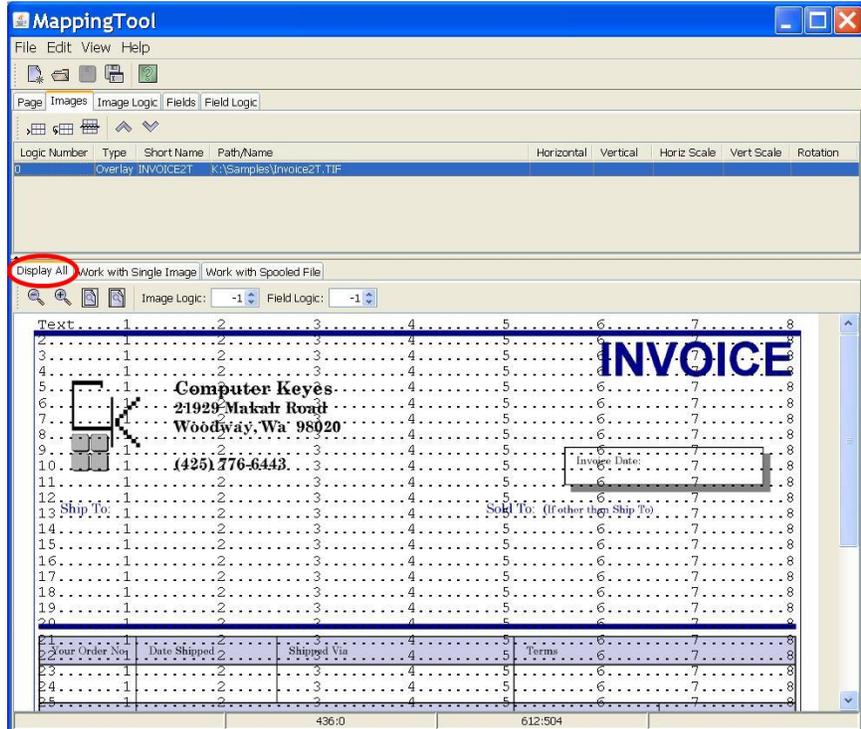


## KeysOverlay

4. Use the **Export** tool from the tool bar to export the image to your current map entry. A new entry will appear in the *Images* tab, in the top section of the screen.



5. Select the *Display All* tab in the lower section of the screen. This will show you how the overlay image will be displayed on the finished page.



6. From the *Images* tab, you can adjust the location of the image as it appears on the page using the Horizontal and Vertical location values. You can change the size of the image using the Scaling values.

Notice that default Text lines are displayed on the *Display All* page, that show you where spooled file lines would appear on the page.

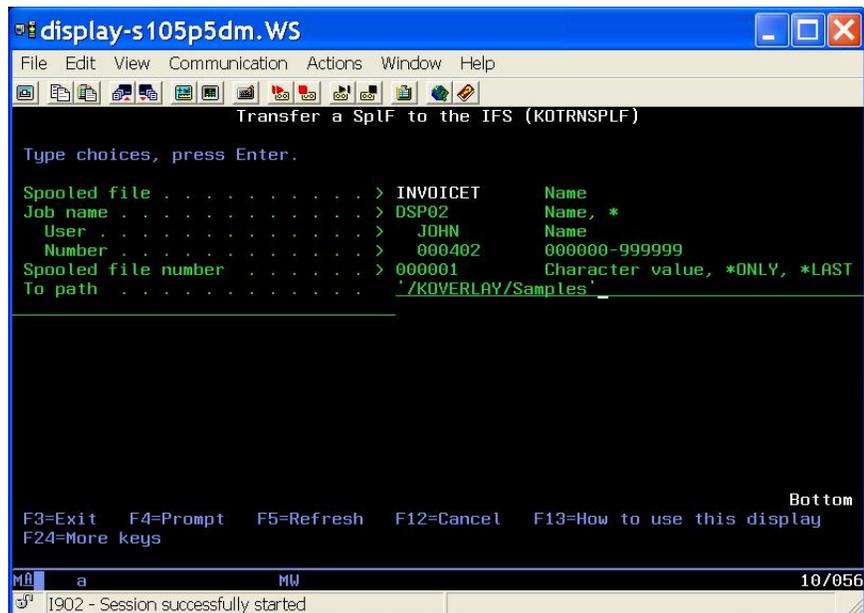
The Mapping Tool can show you exactly what your spooled file data will look like on the completed documents, if you give it a sample spooled file.

## Transfer a Spooled File

We will be transferring one of your spooled files to the /KOVERLAY directory, so that the Mapping Tool can use it.

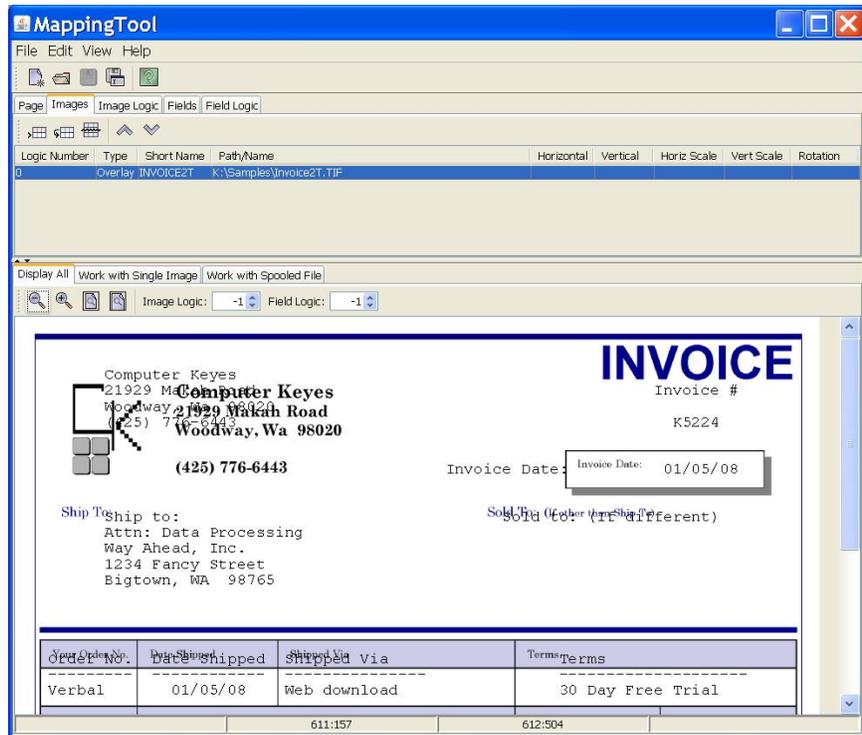
### From the iSeries:

1. Use GO KOMENU to view the KeyesOverlay Menu.
2. Start item **3** *Work with Spooled files* from KOMENU and locate a spooled file that represents what you will be mapping to an overlay.
3. Use option **1** (Transfer) to transfer the selected spooled file to the /KOVERLAY directory.



### Back to the Mapping Tool:

4. Select the *Work with Spooled File* tab, in the lower section of the screen.
5. Use the **Open** tool from the tool bar to open the spooled file that you downloaded from the iSeries.
6. Select the *Display All* tab, in the lower section of the screen. The Mapping Tool should now show you both the overlay image and the spooled file text, as they will appear in the PDF document.



## Map the Spooled File

There are three different processing modes that the system can use to map your spooled file text to PDF documents:

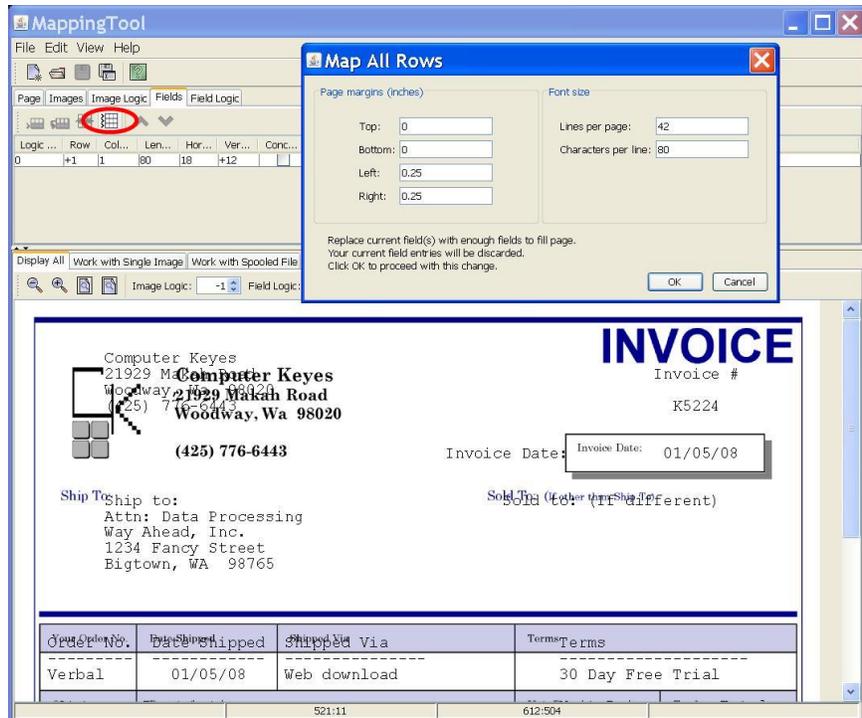
- *Full Page* mode processing is the easiest method to map a spooled file. All spooled file lines are sent to the PDF with a single Field definition entry and an optional overlay. You would use this mode when you want the whole spooled file placed on the PDF page, using the same fixed font attributes and sizes.
- *Field Mapping* mode processing gives you the ability to alter some or all of the spooled file lines that will be sent to the PDF page. You would use this mode if you wanted to remove some of the spooled file data from the PDF, or change some of the attributes of the fields.
- *Line Logic* mode processing is the most advanced method. It is used to create documents that are more free flowing, such as Sales Reports or G/L Trial Balances, where there is no fixed page structure. Logic entries are used to determine what type each line is in the spooled file page. Each line from the page can then be written to the PDF with the desired fonts and sizes. Bookmarks can be added to aid the user in navigating the different sections of the reports.

### Full Page mode:

**Note:** It is recommended that you try *Full Page* mode first, to see if it will work for you. You can easily switch to *Field Mapping* mode, if you would like to customize the document with different positioning or font attributes.

1. Select the *Fields* tab, in the top section of the screen.

2. Press the **Map All Rows** tool from the tool bar.
3. Fill out the desired Margins, Lines per Page, & Characters per Line fields in the *Map All Rows* dialog box before pressing the **OK** button.



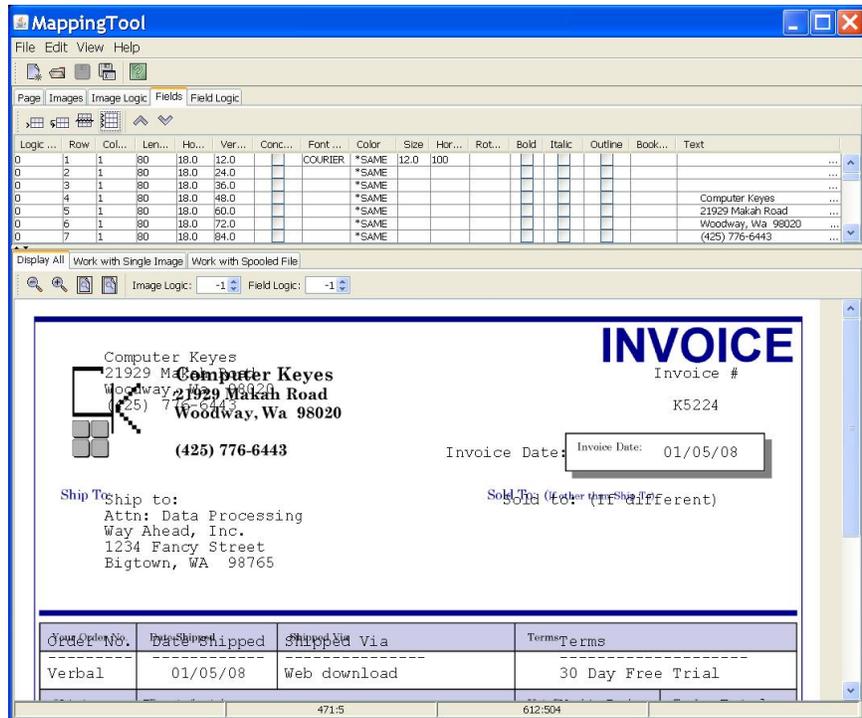
The Mapping Tool will map all the spooled file rows onto the page. You can see the result on the *Display All* tab, in the lower section of the screen. One field definition, in the *Fields* tab, is used to send the entire spooled file to the PDF. You can now change any of the attributes for that one field definition.

### Field Mapping mode:

If *Full Page* mode works for you, you can skip down to the "Save and Transfer" instructions. Otherwise, if you would like to change to *Field Mapping* mode, then you will need to do this:

1. Go back to the *Page* tab, in the top section of the screen.
2. The default processing mode was *Full Page* mode. Switch this to *Field Mapping* mode.
3. Select the *Fields* tab again, in the top section of the screen.
4. Press the **Map All Rows** tool from the tool bar, again.
5. Fill out the desired Margins, Lines per Page, & Characters per Line fields in the *Map All Rows* dialog box again, before pressing the **OK** button.

Now the Mapping Tool will map each individual spooled file line onto the page, one line per row in the *Fields* tab. You can see the result on the *Display All* tab, in the lower section of the screen. It will resemble the *Full Page* mode mapping, except that each spooled file line is now a separate field in the *Fields* tab.



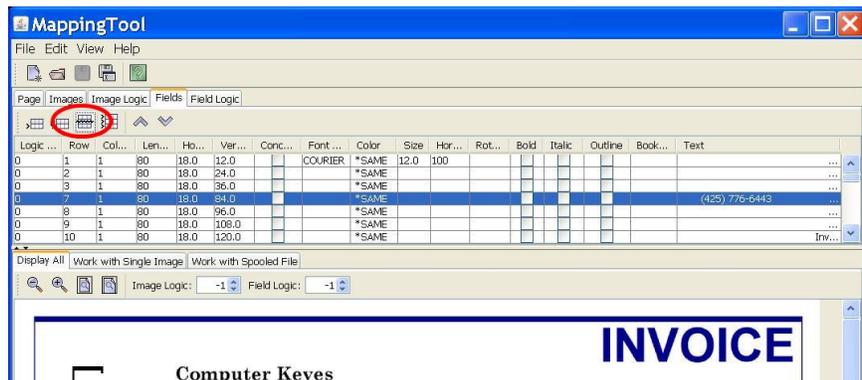
## Change/Customize some Fields

It is now ready for you to customize the Map file. You can remove rows, split up rows, add fields, or change the attributes of any of the fields to customize the document. The results of your changes will appear in the *Display All* tab.

In our sample, we wanted to remove some of the spooled file text that we had duplicated in the Overlay image. And, we wanted to display some of the fields with different attributes, like making the Invoice Number more prominent.

### To Remove Fields:

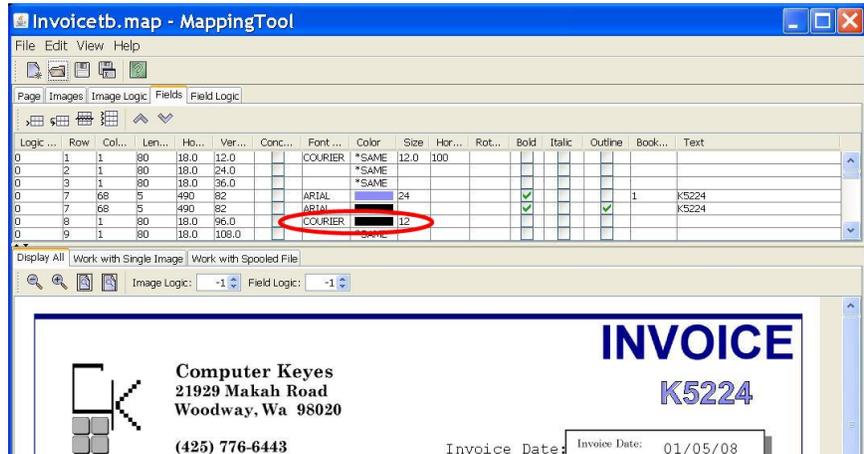
1. Move the mouse to a field in the *Fields* tab, that you do not want to Map to the PDF document, and select it by clicking the **left mouse** button. The selected line will turn blue.
2. Press the **Remove** tool. The selected line will be removed.



**To Change Fields:**

1. On the *Fields* tab, you can change any of the field attributes to alter how each field will be presented on the document.
2. If you change the Font, its color, size, horizontal scale or rotation for a field; be sure to reset the following field back to the original attributes.

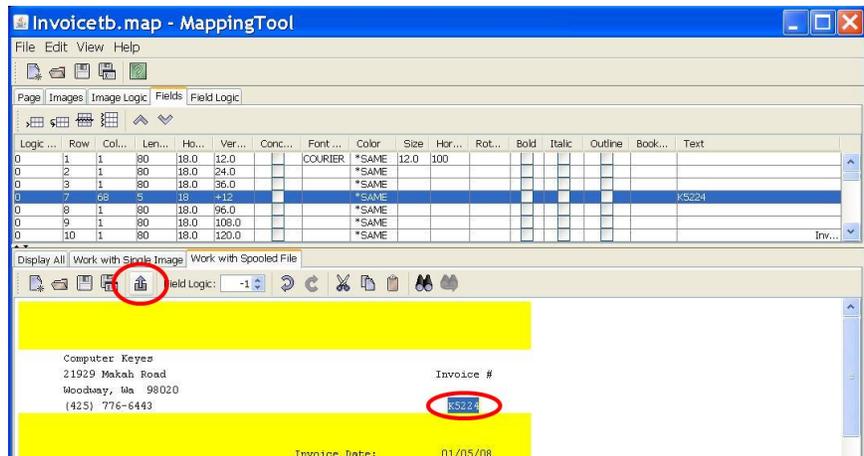
**Note:** Blank attribute values take on the value from the previous field.



**To Add Fields:**

1. Move the mouse to the field in the *Fields* tab, that you would like to add the new field after, and select it by clicking with the left mouse button. New fields will be added immediately *after* the selected field.
2. Switch to the *Work with Spooled File* tab to see the Spooled File data.
3. Select a field, a line, or a portion of a line of Spooled File data that you wish to add to the PDF. You can do this by clicking and dragging the **left mouse** button over the data, before releasing it. The field will be highlighted.
4. Press the **Export** tool.

This will create a new field. Notice that all fields that are scheduled to be sent to the page will be highlighted in yellow.



## KeyesOverlay

### To Move Fields:

1. Select the *Display All* tab to see where the field was added or is currently located.
2. Move the cursor to the location on the *Display All* tab, where you would like the field to be moved to. You can read the current location of the cursor on the bottom of the screen.
3. Record the **Horizontal** and **Vertical** location values in the *Fields* tab.

The screenshot shows the MappingTool interface. At the top is a menu bar (File, Edit, View, Help) and a toolbar. Below that is a tabbed interface with 'Page', 'Images', 'Image Logic', 'Fields', and 'Field Logic'. The 'Fields' tab is active, displaying a table with columns: Logic, Row, Col, Len, Ho, Ver, Conc, Font, Color, Size, Hor, Rot, Bold, Italic, Outline, Book, and Text. Row 7 is selected, with its 'Ho' (490) and 'Ver' (82) values circled in red. Below the table are options for 'Display All', 'Work with Single Image', and 'Work with Spooled File', along with 'Image Logic' and 'Field Logic' dropdowns.

The main preview area shows an invoice for 'Computer Keyes' with the following details:

- Computer Keyes  
21929 Makah Road  
Woodway, Wa 98020  
(425) 776-6443
- Invoice Date: 01/05/08
- Ship To: Attn: Data Processing, Way Ahead, Inc., 1234 Fancy Street, Bigtown, WA 98765
- Shipped: 01/05/08
- Shipped Via: Web download
- Terms: 30 Day Free Trial

At the bottom of the preview area, a status bar shows '490:82' circled in red, corresponding to the field's coordinates in the Fields tab. The status bar also shows '612:504'.

## Save and Transfer the Map Files

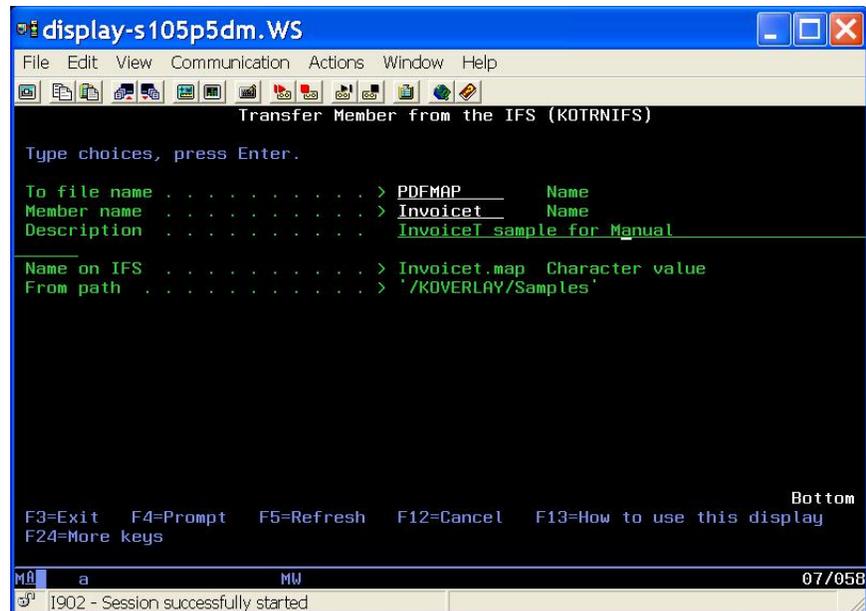
When you have completed the mapping process, the final steps will be to save the Map file and transfer it, along with the overlay, onto the iSeries.

### From the Mapping Tool:

1. Save the completed Map file to the **K:\Maps** directory.

### Transfer the Map file:

2. Using item **1 Work with Map members** from KOMENU, press **F6** to browse the IFS.
3. Move the cursor to the + **Maps** line and press **Enter** to open that directory. The Plus sign (+) designates a directory within /KOVERLAY.
4. Find the desired Map file, move the cursor to it and press the **Enter** key to select it.
5. Correct the name, if needed to make a valid iSeries member name. Type in a description for the Map file and press **Enter** again. This will transfer the Map file from the IFS to the PDFMAP file in KOLIB.



6. The program will return back to the browse screen for the IFS. This allows you to select additional Map files to transfer, as desired.
7. Press **F3** (Exit) when you are finished transferring Map files.

### Transfer the Overlay:

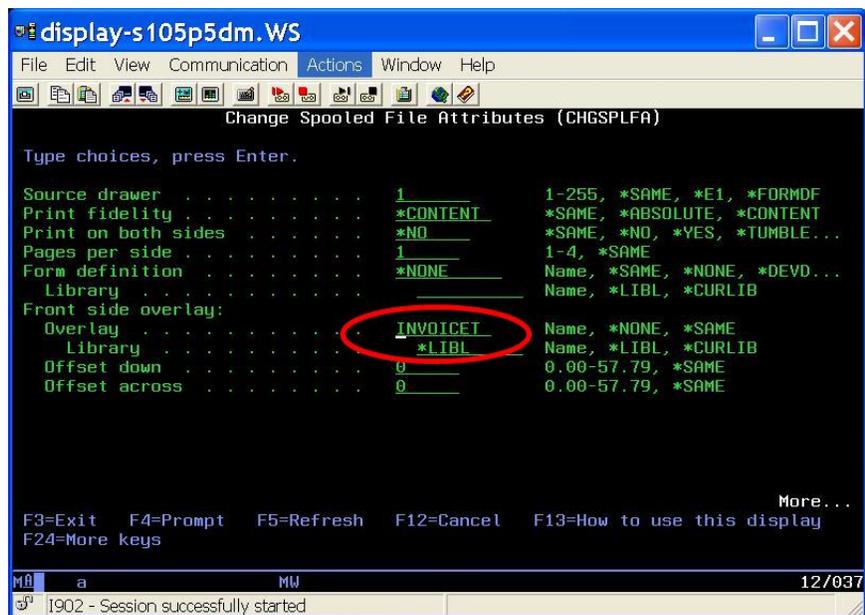
1. Using item **2 Work with Image members** from KOMENU, press **F6** to browse the IFS.
2. Move the cursor to the + **Images** line and press **Enter** to open that directory. The Plus sign (+) designates a directory within /KOVERLAY.

3. Find the desired Overlay image, move the cursor to it and press the **Enter** key to select it.
4. Correct the name, if needed to make a valid iSeries member name. Type in a description for the Overlay image and press **Enter** again. This will transfer the Image file from the IFS to the PDFIMAGE file in KOLIB.

## Use the Map file to make a PDF

Now that you have created and transferred a Map file and any Overlay images to the iSeries, it is time to try them out.

1. Code the name of the Map member in the *Front side overlay* attribute for any spooled file that you want to use the Map file on.



2. Make sure that KOLIB is on the library list.
3. Use KeyesArchive, KeyesMail, or KeyesPDF to convert the spooled file into a PDF.

## Mapping a Report

In the previous instructions, we used *Field Mapping* mode to map a document (an Invoice) to an overlay with fixed locations for the data. In this section we will be learning how to use *Line Logic* mode to map a free flowing report, where each type of line can appear anywhere on a page. We will add PDF Bookmarks to aid the user in navigating the report. Logic entries will be used to determine what type each line is in the spooled file page.

For illustration purposes, we will be working with a sample Profit & Loss Report that is sorted by Store number within Regions:

| Profit & Loss Report<br>by Region<br>January 2008 |              |              |              |  |
|---|--------------|--------------|--------------|--|
| Region 4 - Snohomish                              |              |              |              |  |
| Store #22 Greggs Feed & Equipment                 | Income       | Expense      | Total        |  |
| Clothing/Shoes                                    | \$15,482.00  | \$8,843.00   | \$6,639.00   |  |
| Equipment sales                                   | \$16,503.00  | \$25,135.00  | \$8,632.00   |  |
| Feed  | \$125,270.00 | \$53,125.00  | \$72,145.00  |  |
| Livestock/pets                                    | \$13,053.00  | \$3,240.00   | \$9,813.00   |  |
| Merchandise                                       | \$72,490.00  | \$41,040.00  | \$31,450.00  |  |
| Rentals   | \$12,470.00  | \$562.00     | \$11,908.00  |  |
| Total Sales                                       | \$255,268.00 | \$131,945.00 | \$123,323.00 |  |
| Flood damage repairs                              |              | \$9,253.00   |              |  |
| Maintenance                                       |              | \$4,220.00   |              |  |
| Vehicles/Gas                                      |              | \$5,075.00   |              |  |
| Wages   |              | \$40,486.00  |              |  |
| Total Overhead                                    |              | \$59,034.00  |              |  |
| Total Store #22                                   | \$255,268.00 | \$190,979.00 | \$64,289.00  |  |
| Store #25 Gold Bar Horse Tack                     | Income       | Expense      | Total        |  |
| Boots   | \$12,372.00  | \$4,667.00   | \$7,705.00   |  |
| Brushes/Combs                                     | \$2,450.00   | \$ 855.00    | \$1,595.00   |  |
| Clothing  | \$18,223.00  | \$9,742.00   | \$8,481.00   |  |
| Leather Tack                                      | \$42,845.00  | \$19,774.00  | \$23,071.00  |  |
| Saddles   | \$8,453.00   | \$3,540.00   | \$4,913.00   |  |
| Total Sales                                       | \$84,343.00  | \$38,578.00  | \$45,765.00  |  |
| Maintenance                                       |              | \$2,874.00   |              |  |
| Wages   |              | \$18,250.00  |              |  |
| Total Overhead                                    |              | \$21,124.00  |              |  |
| Total Store #25                                   | \$84,343.00  | \$59,702.00  | \$24,641.00  |  |

## KeyesOverlay

KeyesOverlay will be used to fancy up the report making it easier to pick out important data. Bookmarks will be added, so that a reader can jump directly to specific Stores within any Region. The sample report might look like this, when opened with a PDF reader:

Profit & Loss Report  
by Region  
January 2008

### Region 4 - Snohomish

| Store #22 Greggs Feed & Equipment | Income              | Expense             | Total                 |
|-----------------------------------|---------------------|---------------------|-----------------------|
| Clothing/Shoes                    | \$15,482.00         | \$8,843.00          | \$6,639.00            |
| Equipment sales                   | \$16,503.00         | \$25,135.00         | <del>\$8,632.00</del> |
| Feed                              | \$125,270.00        | \$53,125.00         | \$72,145.00           |
| Livestock/pets                    | \$13,053.00         | \$3,240.00          | \$9,813.00            |
| Merchandise                       | \$72,490.00         | \$41,040.00         | \$31,450.00           |
| Rentals                           | \$12,470.00         | \$562.00            | \$11,908.00           |
| <b>Total Sales</b>                | <b>\$255,268.00</b> | <b>\$131,945.00</b> | <b>\$123,323.00</b>   |
| Flood damage repairs              |                     | \$9,253.00          |                       |
| Maintenance                       |                     | \$4,220.00          |                       |
| Vehicles/Gas                      |                     | \$5,075.00          |                       |
| Wages                             |                     | \$40,486.00         |                       |
| <b>Total Overhead</b>             |                     | <b>\$59,034.00</b>  |                       |
| <b>Total Store #22</b>            | <b>\$255,268.00</b> | <b>\$190,979.00</b> | <b>\$64,289.00</b>    |

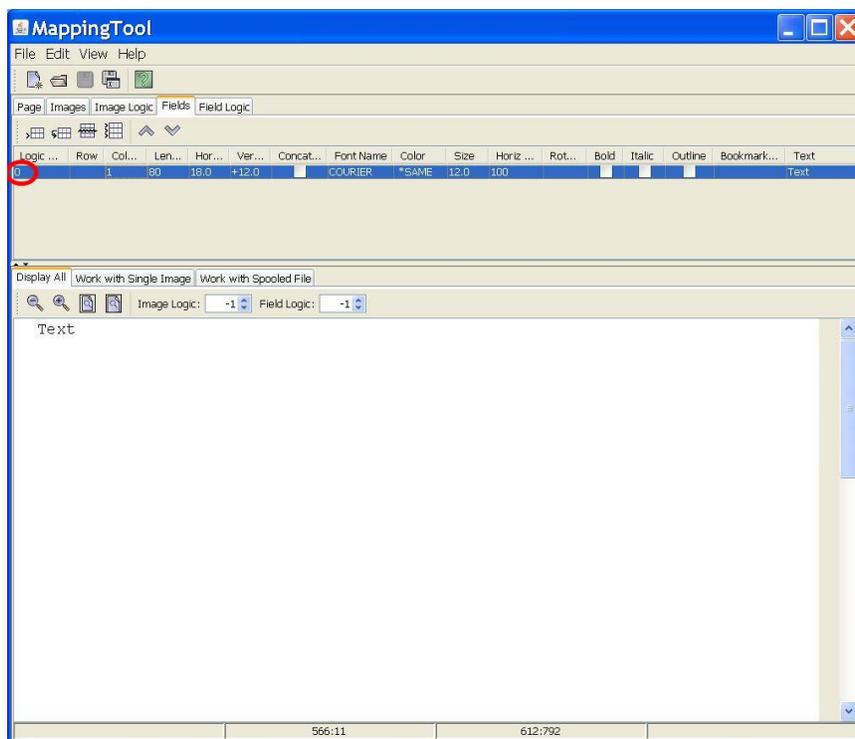
  

| Store #25 Gold Bar Horse Tack | Income             | Expense            | Total              |
|-------------------------------|--------------------|--------------------|--------------------|
| Boots                         | \$12,372.00        | \$4,667.00         | \$7,705.00         |
| Brushes/Combs                 | \$2,450.00         | \$855.00           | \$1,595.00         |
| Clothing                      | \$18,223.00        | \$9,742.00         | \$8,481.00         |
| Leather Tack                  | \$42,845.00        | \$19,774.00        | \$23,071.00        |
| Saddles                       | \$8,453.00         | \$3,540.00         | \$4,913.00         |
| <b>Total Sales</b>            | <b>\$84,343.00</b> | <b>\$38,578.00</b> | <b>\$45,765.00</b> |
| Maintenance                   |                    | \$2,874.00         |                    |
| Wages                         |                    | \$18,250.00        |                    |
| <b>Total Overhead</b>         |                    | <b>\$21,124.00</b> |                    |
| <b>Total Store #25</b>        | <b>\$84,343.00</b> | <b>\$59,702.00</b> | <b>\$24,641.00</b> |

## Start the Mapping Tool

1. Start the Mapping Tool from the shortcut that you made during the installation process, or press the **New Map File** tool from the upper tool bar, to start a new map file.
2. Select the *Page* tab, in the top section of the screen.
3. Define the page size for the PDF report and the orientation.
4. Select *Line Logic* mode.
5. Select the *Fields* tab, in the top section of the screen.
6. Press the **Map All Rows** tool from the tool bar.
7. Fill out the desired Margins, Lines per Page, & Characters per Line fields in the *Map All Rows* dialog box before pressing the **OK** button.

The Mapping Tool will create a default field definition, in the *Fields* tab, defined with Logic Number **0**. This default line is used to send each spooled file line to the PDF page, that you do not define with another Logic definition.



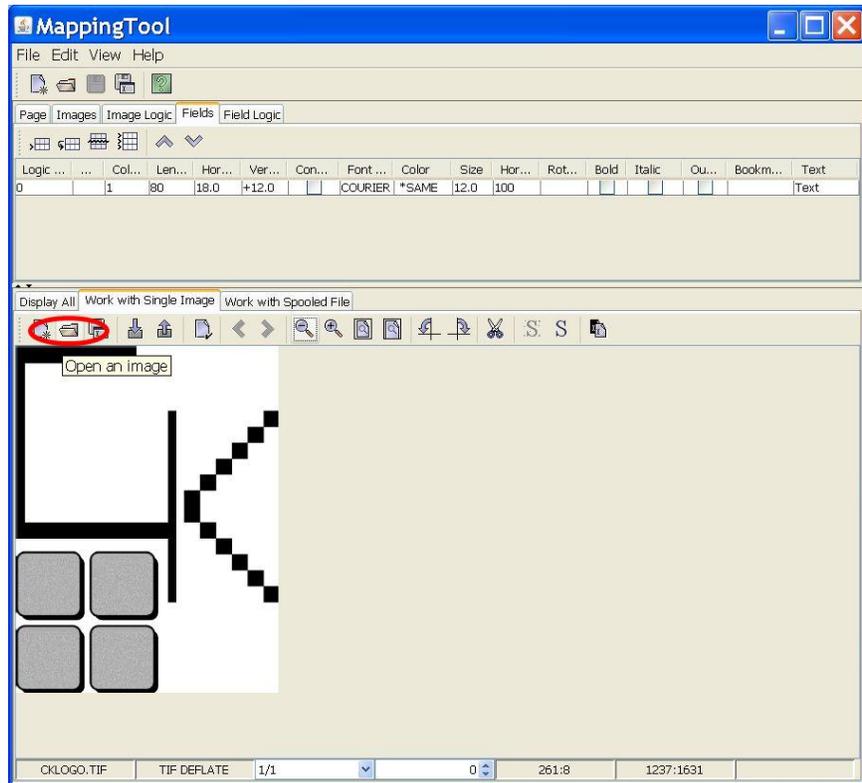
### Vertical Motion with Line Logic mode:

You can change the attributes, such as the Font or Color, of the default line, if desired. But, you typically would not want to change the Vertical motion value. The Vertical motion value (+12.0 in this example) has been calculated to ensure that all of the expected Spooled File lines will fit on the page, within the specified Margins. If you change this value, the text will no longer fit on the page.

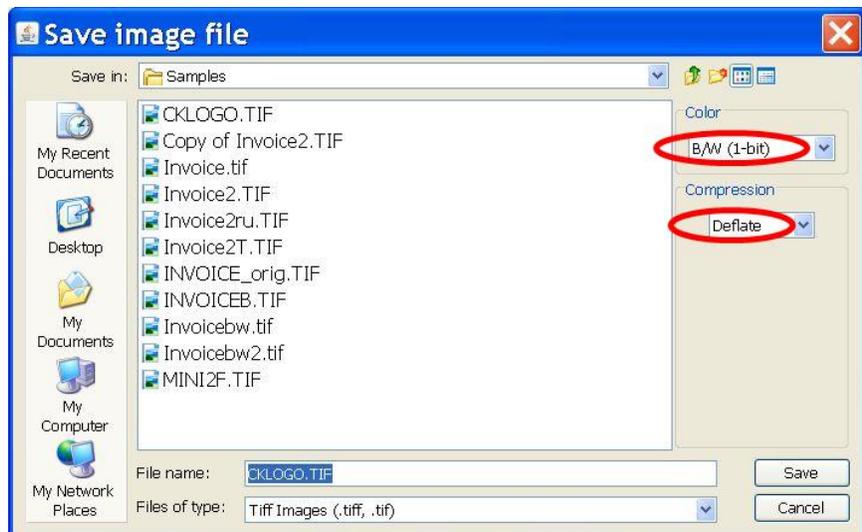
### Adding Images to the Page

Images used by KeyesOverlay must be compressed properly, in order to function efficiently within a PDF document. The Mapping Tool will do this for you. It can also Crop images, if you need this done. In our sample report, we will be adding a Logo to the top left corner of each page.

1. Select the *Work with Single Image* tab, in the lower section of the screen.
2. Use the **Open** tool to open an image that you either printed using the ImageMaker print driver, or gathered from another application.

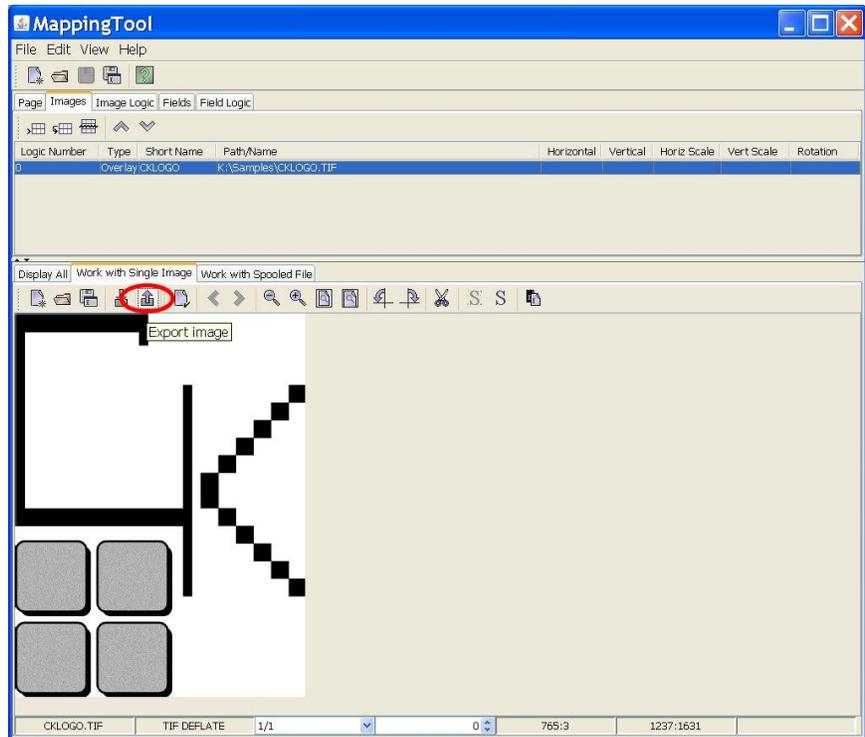


- Use the **Save As** tool from the tool bar to save the image to the **K:\Images** directory, with the appropriate color characteristics and compression. For color images be sure to choose **RGB (24-bit)**. For monochrome images, you will want **B/W (1-bit)**. We recommend that you save most images using **Deflate** compression, as this is usually the most efficient for PDF documents.

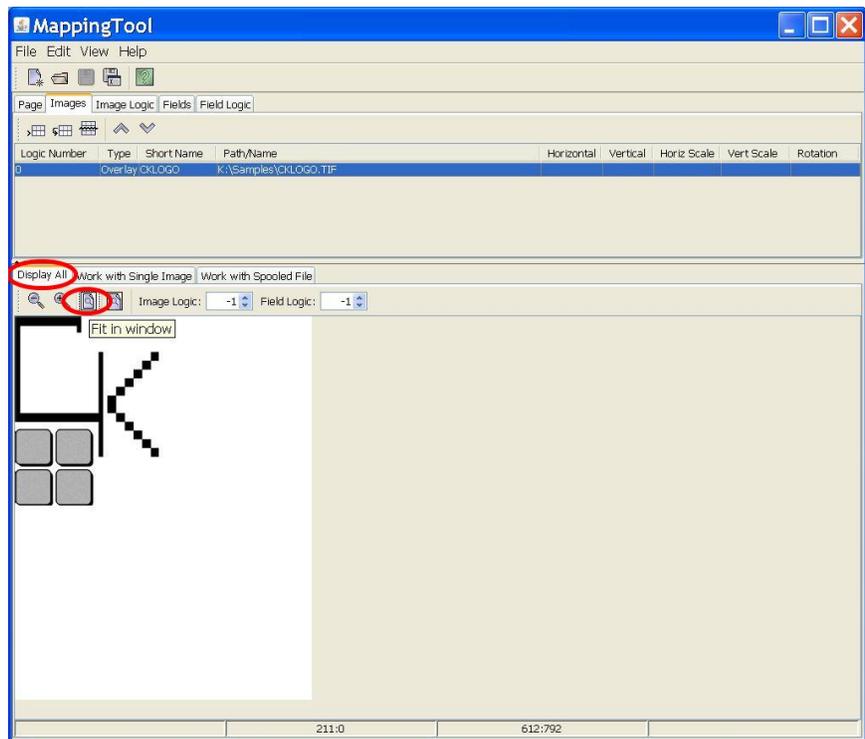


- Use the **Export** tool from the tool bar to export the image to your current map entry. Switch to the *Images* tab, in the top section of the screen, to see the new entry that is created.

## KeyesOverlay



5. Select the *Display All* tab in the lower section of the screen, and press the **Fit in Window** tool. This will show you how the overlay image will be displayed on the finished page.

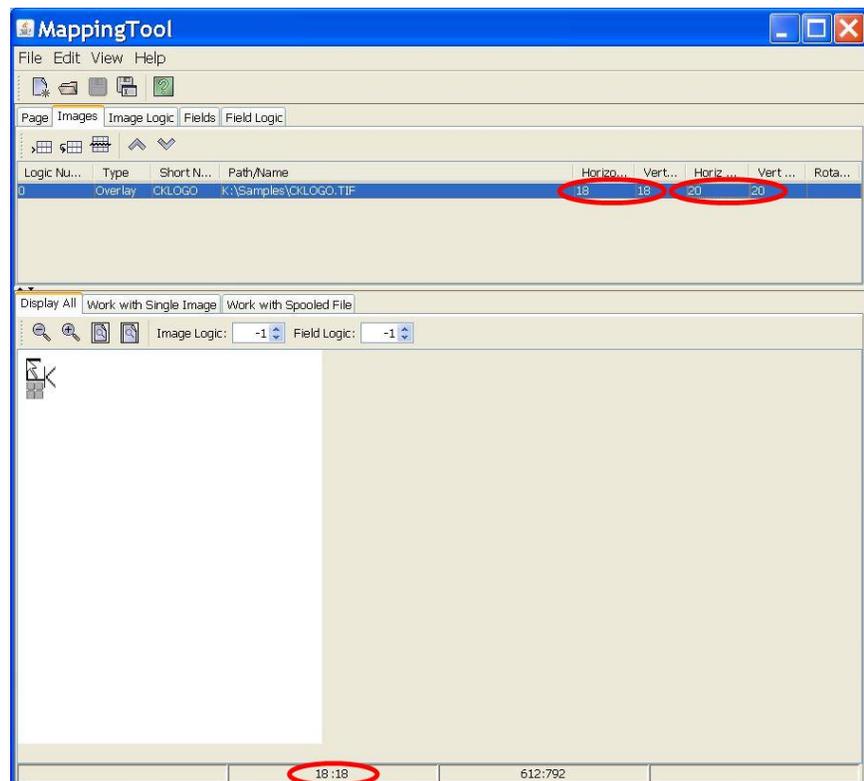


### Scaling the Image:

Notice that, in our case, the Logo is displayed too large on the page. We must use Horizontal and Vertical Scaling to shrink the image on the page. With a little experimentation, we determined that 20% scaling produced a reasonable size image for the page. We therefore entered **20** in both the Horizontal and Vertical Scale fields.

### Positioning the Image:

- Using your mouse, you can move the cursor to the location on the page where you would like the image to appear. You can read the cursor location at the bottom of the screen.
- From the *Images* tab, you can adjust the location of the image using the Horizontal and Vertical fields. We entered **18** in both the Horizontal and Vertical location values. This corresponds to 1/4 inch from the top and the side ( $18 \text{ pixels} \div 72 \text{ pixels/inch} = 1/4 \text{ inch}$ ).



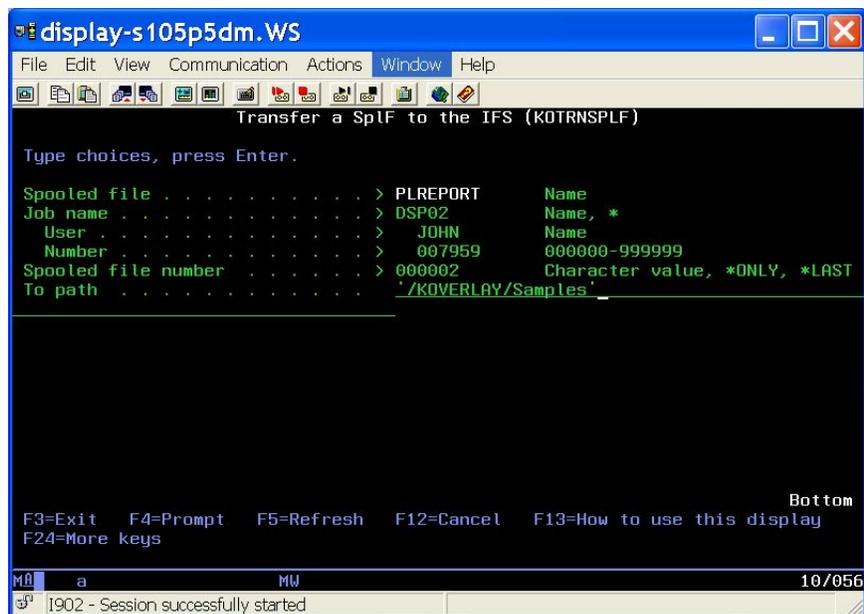
The Mapping Tool can show you exactly what your spooled file data will look like on the completed documents, if you give it a sample spooled file.

## Transferring a Spooled File

We will be transferring one of your spooled files to the /KOVERLAY directory, so that the Mapping Tool can use it. Without a representative spooled file, there is no way for the program to show you what the report will look like. Nor will it be able to show you how your Logic entries will work.

### From the iSeries:

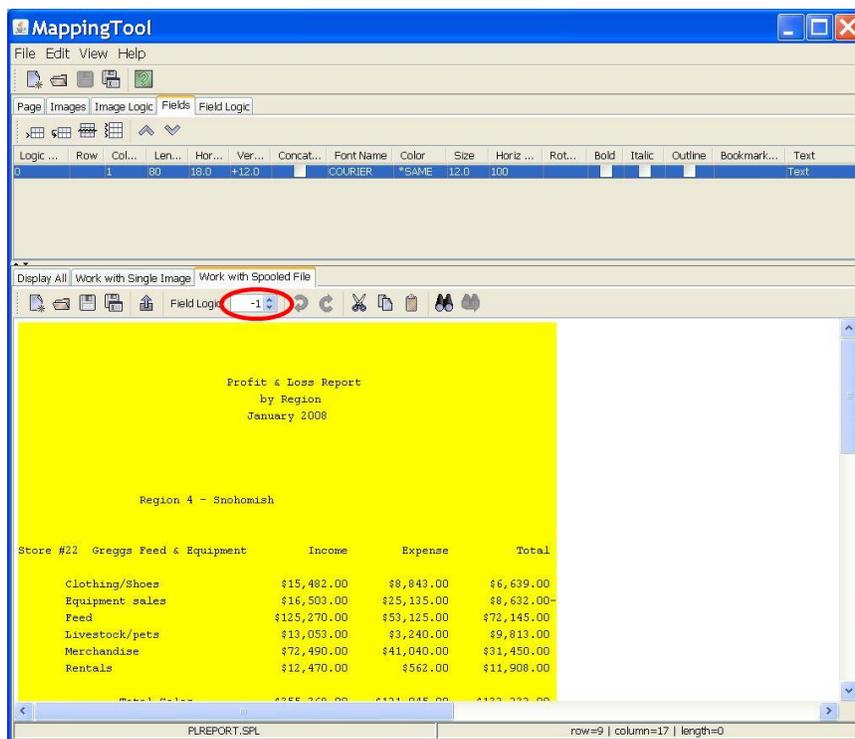
1. Use GO KOMENU to view the KeyesOverlay Menu.
2. Start item **3** *Work with Spooled files* from KOMENU and locate a spooled file that represents what you will be mapping to an overlay.
3. Use option **1** (Transfer) to transfer the selected spooled file to the /KOVERLAY directory.



### Back to the Mapping Tool:

4. Select the *Work with Spooled File* tab, in the lower section of the screen.
5. Use the **Open** tool from the tool bar to open the spooled file that you downloaded from the iSeries.

You will be using the *Work with Spooled File* screen to map your Line Logic entries.



### Field Logic spinner:

We will use the **Field Logic** spinner to aid us in mapping the different types of lines in the report. When you dial **-1** in the spinner, this will highlight in yellow all of the spooled file lines that are selected to be sent to the PDF. When we first start the mapping process, we have not defined any Logic entries yet. All the spooled file lines are therefore going to use the default field definition (Logic number **0**) and this causes the entire page to be highlighted in yellow.

## Adding Field Logic Entries

*Line Logic* works by sending all spooled file lines to the PDF page using the default attributes, defined by the default line definition (Logic number **0**). For any lines that you want to appear differently from the default, you will uniquely identify them using *Field Logic* definitions and provide different attributes using *Field* definitions.

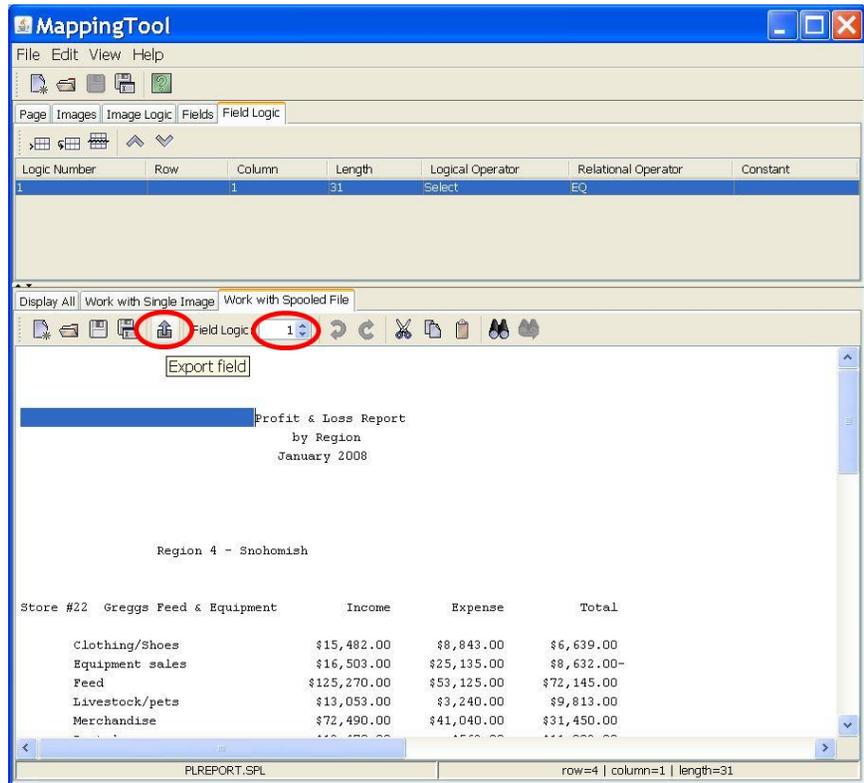
### Identifying Lines:

You will use the *Field Logic* screen, to uniquely identify lines that you wish to alter from the default.

In our sample report, for example, we wanted the top three heading lines to be a little more prominent on the page. We chose to have them centered, using a gray Arial font that is scaled slightly larger than standard. To identify the top three lines, we had to find something that was unique about those lines. In this case, we chose the fact that those three lines are the only ones where the first 31 columns were blank, and the next 20 columns were not blank. We can use these facts to identify the 3 heading lines.

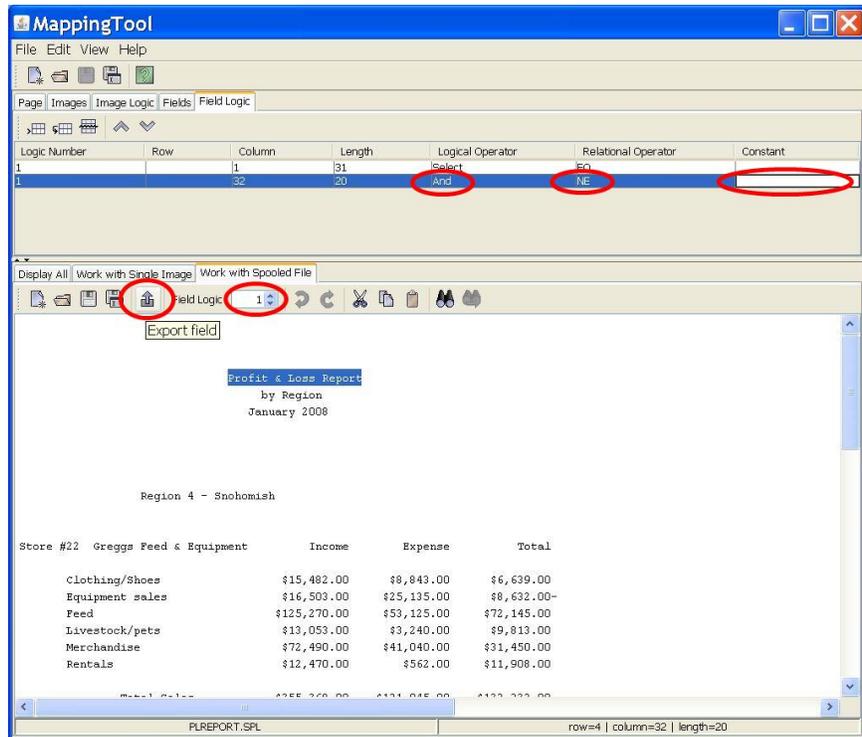
**Exporting to Field Logic screen:**

1. Select the *Field Logic* tab, in the upper section of the screen.
2. Select the *Work with Spooled File* tab, in the lower section of the screen.
3. Enter the desired Logic value in the **Field Logic** spinner, to designate which Logic entry you will be defining. (We dialed **1** for our first logic entry.)
4. Select a field, a line, or a portion of a line of Spooled File data that will be used to identify a line in the Spooled File for this Logic entry. You can do this by clicking and dragging the **left mouse** button over the data, before releasing it. The field will be highlighted.
5. Press the **Export** tool.



This will create a new logic entry. The entry will be placed directly below the last entry that had been selected in the *Field Logic* tab.

6. We must repeat this process to grab the data starting in column 32 to uniquely identify the heading lines.
7. Now we code the appropriate selection criteria to define the Field Logic for the heading lines, as shown below:



We changed the Logical Operator to "And", the Relational Operator to "NE" and the Constant field to blanks, for our example.

The two Logic Lines that define our Logic Entry 1 now read as follows:

*For any Spooled file line, select Logic number 1 if the data starting in column 1 for a length of 31 is equal to the constant value of blank, and if the data starting in column 32 for a length of 20 is not equal to blank.*

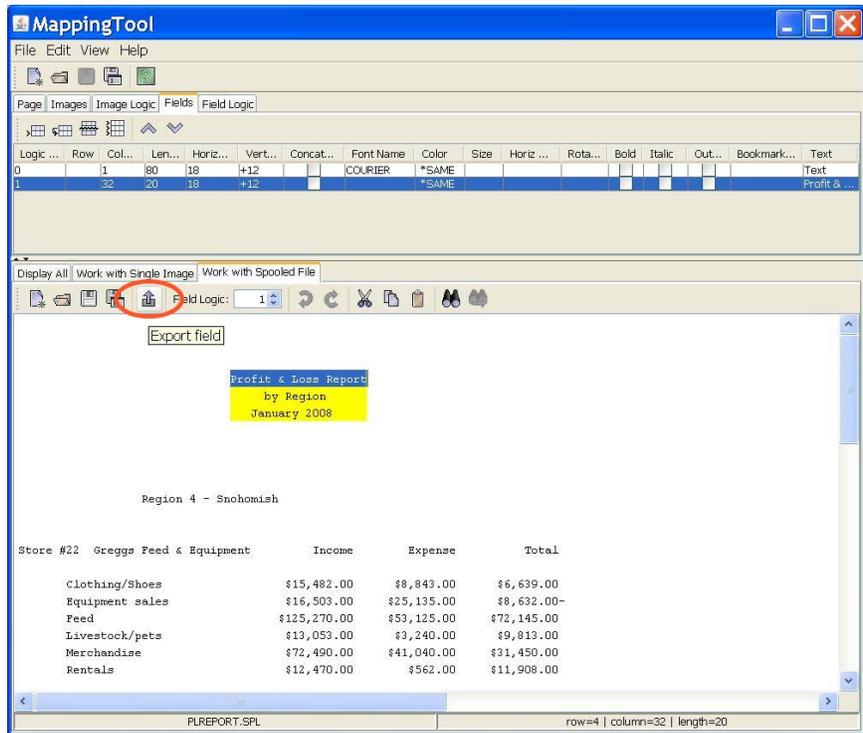
These two lines of logic uniquely identify the top three heading lines of the spooled file data.

## Customizing the Selected lines

Now that we have told the system how to identify the heading lines in the spooled file, we can now direct the program how to present those lines to the page. We do this in the *Fields* screen by adding a new entry.

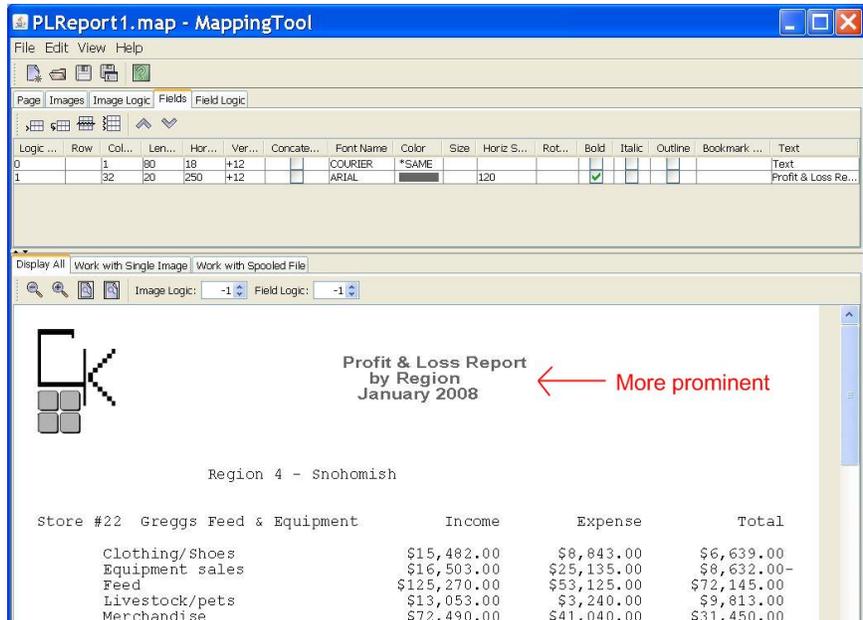
1. Switch to the *Fields* tab, in the upper section of the screen.
2. Be sure that the **Field Logic** spinner still has the Logic number that you are defining. (We dialed 1 for the first logic field in our example.)
2. Using your mouse select a field, a line, or a portion of a line of the selected Spooled File data that you want to write for this logic entry.
3. Press the **Export** tool.

In our example, we selected the 20 characters of heading data that we want to customize for Logic number 1.



Notice that the 3 heading lines are immediately highlighted in yellow, when the **Field Logic** spinner is dialed to 1. You can use this information to confirm that each of your logic entries is selecting the correct lines of data from your report.

4. Now you can change the attributes for the new Logic number 1 field, to display these lines differently than the default.
5. You can switch to the *Display All* tab to see the results of this new Logic definition, and to help position the fields in the correct horizontal location.



## Vertical Motion

You can change the font, its size, color and other attributes, as desired. You can even change the horizontal location for the fields. It is important, though, that you pay attention to the *Vertical* motion (+12 in our example). In most cases, you would not want to change this value. Otherwise, the lines from the spooled file would not necessarily line up on the page in an orderly manner. It could cause lines to take up too much room and even run off the page at the bottom.

### Breaking up a line:

There may be times when you want to break up a line into two or more pieces so that you can select different attributes for each part. We wanted to display any negative values in **Red**, as an example, so that it would stand out on the report.

To do this, you will want the first part of the line to move Vertically downward, but not the additional parts.

### Concatenating fields:

We decided to use the Concatenate feature to attach the two parts, so that we did not have to specifically align the second field on the page. Concatenation allows a field to immediately follow the preceding line. Concatenation can be a bit tricky, however. You must make sure that there are no blanks at the end of the string that you are concatenating onto. Blanks are trimmed off of the first string, before the second string is concatenated to it.

The screenshot shows the MappingTool interface for a report named 'PLReport2.map'. The top section is a configuration table with the following data:

| Logic | Row | Col | Len | Hr | Ver | Concat | Font Name | Color | Size | Horiz S | Rotat | Bold | Italic | Outline | Bookmark | Text              |
|-------|-----|-----|-----|----|-----|--------|-----------|-------|------|---------|-------|------|--------|---------|----------|-------------------|
| 0     | 1   | 80  | 18  |    | +12 |        | COURIER   |       | 12   |         |       |      |        |         |          | Text              |
| 1     | 32  | 20  | 250 |    | +12 |        | ARIAL     |       | 12   | 120     |       |      |        |         |          | Profit & Loss ... |
| 2     | 19  | 32  | 170 |    | +12 |        | ARIAL     | *SAME | 24   | 110     |       |      |        |         | 1        | Region 4 - Sno... |
| 3     | 1   | 80  | 18  |    | +12 |        | COURIER   |       | 12   | 100     |       |      |        |         | 2        | Store #22 G...    |
| 4     | 1   | 64  | 18  |    | +12 |        | *SAME     |       |      |         |       |      |        |         |          | Clothing...       |
| 4     | 65  | 16  | 18  |    |     |        | *SAME     |       |      |         |       |      |        |         |          | \$6,639.00        |
| 5     | 1   | 64  | 18  |    | +12 |        | *SAME     |       |      |         |       |      |        |         |          | Clothing...       |
| 5     | 65  | 16  | 18  |    |     |        |           |       |      |         |       |      |        |         |          | \$6,639.00        |

The bottom section shows a preview of the report titled 'Profit & Loss Report by Region January 2008'. The data is as follows:

| Store #22 | Greggs Feed & Equipment | Income       | Expense     | Total       |
|-----------|-------------------------|--------------|-------------|-------------|
|           | Clothing/shoes          | \$15,482.00  | \$8,843.00  | \$6,639.00  |
|           | Equipment sales         | \$16,503.00  | \$25,135.00 | \$8,632.00  |
|           | Feed                    | \$125,270.00 | \$53,125.00 | \$72,145.00 |
|           | Livestock/pets          | \$13,053.00  | \$3,240.00  | \$9,813.00  |
|           | Merchandise             | \$72,490.00  | \$41,040.00 | \$31,450.00 |
|           | Rentals                 | \$12,470.00  | \$562.00    | \$11,908.00 |

You can see how each Logic definition changes the document on the *Display All* tab, in the lower section of the screen. At first all spooled file lines are sent to the PDF, the same way, using the default field definition. As you add new Logic entries, the report will continue to change.

The screenshot shows the MappingTool interface with a report titled "Profit & Loss Report by Region January 2008". The report is for "Region 4 - Snohomish". It contains a table with the following data:

| Store #   | Store Name              | Income              | Expense             | Total                 |
|-----------|-------------------------|---------------------|---------------------|-----------------------|
| Store #22 | Greggs Feed & Equipment |                     |                     |                       |
|           | Clothing/Shoes          | \$15,482.00         | \$8,843.00          | \$6,639.00            |
|           | Equipment sales         | \$16,503.00         | \$25,135.00         | <del>\$8,632.00</del> |
|           | Feed                    | \$125,270.00        | \$53,125.00         | \$72,145.00           |
|           | Livestock/pets          | \$13,053.00         | \$3,240.00          | \$9,813.00            |
|           | Merchandise             | \$72,490.00         | \$41,040.00         | \$31,450.00           |
|           | Rentals                 | \$12,470.00         | \$562.00            | \$11,908.00           |
|           | <b>Total Sales</b>      | <b>\$255,268.00</b> | <b>\$131,945.00</b> | <b>\$123,323.00</b>   |
|           | Flood damage repairs    |                     | \$9,253.00          |                       |
|           | Maintenance             |                     | \$4,220.00          |                       |
|           | Vehicles/Gas            |                     | \$5,075.00          |                       |
|           | Wages                   |                     | \$40,486.00         |                       |
|           | <b>Total Overhead</b>   |                     | <b>\$59,034.00</b>  |                       |
|           | <b>Total Store #22</b>  | <b>\$255,268.00</b> | <b>\$190,979.00</b> | <b>\$64,289.00</b>    |
| Store #25 | Gold Bar Horse Tack     |                     |                     |                       |
|           | Boots                   | \$12,372.00         | \$4,667.00          | \$7,705.00            |

When you have finished mapping the report, follow the "Save and Transfer" instructions found in the previous section of this manual to save the Map file and transfer it to the iSeries along with any images that you have included on the page.

## Working with Map Members

Map entries are used to move spooled file data from a standard \*SCS printer file onto a PDF page, with optional overlays, images and/or bookmarks. The PDFMAP file is actually a Source Physical File, that contains 12 characters of a Sequence number and a Date, followed by the mapping data. This allows you to use SEU to maintain the entries, when they are on the iSeries. You can find information about the file structure in the Appendix.

### Transferring Maps to and from the IFS

Original development of the mapping entries is best done using **MappingTool** on a PC. However, you can manually change an entry that is on the iSeries using **SEU** if you wish. Transfer of these mapping members to and from the IFS can be done using any transfer method available, but can easily be done using the tools that we have provided on KOMENU.

Item #1 (*Work with Map members*) from **KOMENU** (KeyesOverlay Menu) will allow you to transfer map members between the source physical file PDFMAP and the IFS.

#### Transferring a Map to the IFS:

1. Use **GO KOMENU** to display the KeyesOverlay menu.
2. Select option **1** to work with Map members.
3. Use option **1** to transfer one of the map members to your IFS.
4. Specify the appropriate name and path on the IFS to transfer the map member:

|                   |                        |
|-------------------|------------------------|
| File name .....   | <b>PDFMAP</b>          |
| Member name ..... | <b>MAPMBR</b>          |
| Name on IFS ..... | <u>MAPMBR.MAP</u>      |
| To path .....     | <u>'KOVERLAY/Maps'</u> |

**Note:** You can browse the IFS to see your maps, using **F6**.

#### Transferring a Map from the IFS:

1. Use **GO KOMENU** to display the KeyesOverlay menu.
2. Select option **1** to work with Map members.
3. Press **F6** to browse the IFS. The contents of /KOVERLAY folder will be shown to you by default.
4. Move the cursor to the desired folder and press **Enter** to open the folder. Move the cursor to a file and press **Enter** to select the file.

5. Specify the appropriate member name and description for the transfer of the map member:

To file name ..... PDFMAP  
Member name ..... Mapmembern  
Description ..... 'Sample Map member'  
\_\_\_\_\_  
Name on IFS ..... Mapmembername.map  
From path ..... '/KOVERLAY/Maps'

**Note:** A proposed member name will be generated for you by truncating the name of the map member selected from the IFS down to a maximum of 10 characters, without any filename extension. You may have to correct the name to make it a legal iSeries name. iSeries names must start with a letter or \$#@\*. Following characters can be letters, digits, special characters \$#@\* or an underscore ( \_ ) with no embedded blanks.

## Working with Images

TIFF images can be created for KeyesOverlay using a variety of methods. You will want to save or transfer images into a member of the file called PDFIMAGE in KOLIB.

Color images are best saved as Deflate or JPeg compression. This will make the smallest TIFF file sizes. Monochrome images work well with Deflate, Packbits, Group 3, or Group 4 TIFF compression methods. It is recommended that you create the images with 300 dpi resolution, this will give a compact size but still be good for viewing and printing clarity in the PDF documents.

## Creating Images using KeyesPDF Utility

You can convert AFPDS or USERASCII spooled files into TIFF images with the KeyesPDF Utility.

1. Create an AFPDS or USERASCII spooled file that contains just your overlay, with no data.
2. Use **GO KUMENU** to display the KeyesPDF Utility menu.
3. Select option **6** to convert a spooled file and specify the user or output queue to search.
4. Locate the spooled file and use option **1** to convert it.
5. Specify the following parameters:

```
TOFILE(PDFIMAGE)  TOLIB(KOLIB)
TOMBR(image-name) TOTYPE(TIF)
```

This will create a 300 dpi monochrome TIFF image out of an AFPDS or USERASCII spooled file and place it in the PDFIMAGE file.

## Creating Images using KeyesMail

You can convert AFPDS or USERASCII spooled files into TIFF image attachments, then save these images into the PDFIMAGE file using KeyesMail.

1. Create an AFPDS or USERASCII spooled file that contains just your overlay, with no data.
2. Use **GO KMMENU** to display the KeyesMail menu.
3. Select option **1** to Work with KeyesMail.
4. **F6** will create a new piece of mail. You do not need to address the mail nor do you need to give it a subject or a message.
5. After closing the Recipient address window, move the cursor to the **Attach>** line and press **Enter**. This will open the Attachments window.
6. **F6** will add a new attachment. The type will be **5** (SpIF).
7. Move the cursor to **<Spool File>** and press **Enter** to browse for the spooled file. Be sure to specify a Translation code of **3** (IMG). This will create a 300 dpi monochrome TIFF image for AFPDS or USERASCII spooled files.

8. Use option **1** to save the image as a type **3** (PF) into PDFIMAGE in KOLIB. Be sure to name the member something appropriate.

## Creating Images using ImageMaker

ImageMaker is a Color Print Driver that can be used to create full color TIFF images for KeyesOverlay. MappingTool can easily convert the color images to either 8 bit gray scale or monochrome (B/W) images, if this is desirable.

1. Create or display a document that you want to convert to an image, using any desired PC application.
2. Select and print to the **KeyesOverlay.ImageMaker** printer.  
This will render the document into a color TIFF image and write it to the **K:\Images** directory, by default. You can change the default destination by changing the "*Path for Output Files*" located in the Printer Properties/Device Settings.  
Each image will be given a name that starts with the letters "Im" and includes the current Month, Day, and a sequence number.  
**(Im081501.tif)**
3. Open the image in the *Work with Single Image* section of the **MappingTool** program.
4. Save the image with an appropriate name. Be sure to select the desired Color and Compression attributes for the image, on the *Save Image file* screen.

**Note:** For color images you should choose **RGB (24-bit)**. For monochrome images, you will want **B/W (1-bit)**. We recommend that you save most images using **Deflate** compression, as this is usually the most efficient for PDF documents.

## Using Images from other Products

You can use TIFF images that were created by other products with KeyesOverlay. It is recommended that the images are created at 300 dpi, for the best results in a PDF document.

The TIFF images can be transferred directly to the PDFIMAGE file, using FTP, CPYFRMSTMF, CPYFRMPCD, or any transfer program available. Be sure to send the image file as-is, with no translation, or as a Binary transfer.

The easiest method of transferring an image is to use the KOVERLAY directory in your IFS. This directory should be mapped to a **K:** drive on your PC, for easy access. Objects that you place in the **K:** drive can be easily transferred to the iSeries using items on the KOMENU.

It is recommended that you open the images using the *Work with Single Image* section of the **MappingTool** program, then save them with an appropriate name. In this way you can select the desired Color and Compression attributes for the image.

## Transferring Images to and from the IFS

Images can be created either on the iSeries or on a PC, and must be shared between **MappingTool** for development and **KeyesOverlay** for creating PDF documents. Transfer of these images can be done using any transfer method available, but can easily be done using the tools that we have provided.

Item #2 (*Work with Image members*) from **KOMENU** (KeyesOverlay Menu) will allow you to transfer images between the physical file PDFIMAGE and the IFS.

### Transferring an image to the IFS:

1. Use **GO KOMENU** to display the KeyesOverlay menu.
2. Select option **2** to work with Image members.
3. Use option **1** to transfer one of the image members to your IFS.
4. Specify the appropriate name and path on the IFS to transfer the image:

|                   |                           |
|-------------------|---------------------------|
| File name .....   | <b>PDFIMAGE</b>           |
| Member name ..... | <b>IMAGEMBR</b>           |
| Name on IFS ..... | <u>IMAGEMBR.TIF</u>       |
| To path .....     | <u>'/KOVERLAY/Images'</u> |

**Note:** You can browse the IFS to see your images, using **F6**.

### Transferring an image from the IFS:

1. Use **GO KOMENU** to display the KeyesOverlay menu.
2. Select option **2** to work with Image members.
3. Press **F6** to browse the IFS. The contents of /KOVERLAY folder will be shown to you by default.
4. Move the cursor to the desired folder and press Enter to open the folder. Move the cursor to a file and press Enter to select the file.
5. Specify the appropriate member name and description for the transfer of the image:

|                    |                              |
|--------------------|------------------------------|
| To file name ..... | <b>PDFIMAGE</b>              |
| Member name .....  | <b>Imagemembe</b>            |
| Description .....  | <u>'Sample image member'</u> |
| <hr/>              |                              |
| Name on IFS .....  | imagemember.tif              |
| From path .....    | '/KOVERLAY/Images'           |

**Note:** A proposed member name will be generated for you by truncating the name of the image selected from the IFS down to a maximum of 10 characters and removing any filename extension. You may have to correct the name to make it a legal iSeries name. iSeries names must start with a letter or \$#@\*. The following characters can be letters, digits, special characters \$#@\* or an underscore ( \_ ) with no embedded blanks.

## Working with Spooled Files

Standard \*SCS printer files are going to be mapped onto a PDF document. In *Full page* mode, the whole spooled file page will be sent to the PDF with the same fixed font. In *Mapping* mode, individual lines or fields may be mapped to the page with different fonts or attributes. In *Line* mode, each line is defined with Logic to be placed on the page.

Knowing where the fields are on the printer page can be a challenge, unless you have the original DDS or Printer specifications that were used to create the printer files. **MappingTool** will allow you to take a representative version of a spooled file and use it for assistance in mapping the data.

### Transferring a Spooled File to the IFS

You may optionally download a spooled file to the IFS so that **MappingTool** has access to it. Choose a spooled file that contains the type of data that you will be mapping to a PDF document.

Item #3 (*Work with Spooled files*) from **KOMENU** (KeyesOverlay Menu) will allow you to select and transfer spooled files to the IFS.

#### Selecting and transferring a Spooled file:

1. Use **GO KOMENU** to display the KeyesOverlay menu.
2. Select option **3** to work with Spooled files.
3. Specify the desired parameters to select by user or by output queue and press **Enter**:

```
Show spooled files for ..... *USER_____
User Id ..... *CURRENT_____
Output Queue ..... _____
```

4. Use option **1** to transfer one of the spooled files to your IFS.
5. Specify the appropriate path on the IFS to transfer the spooled file:

```
Spooled file ..... FileName
Job name ..... JobName
User ..... User-Id
Number ..... Number
Spooled file number ..... SplNbr
To path ..... '/KOVERLAY'
_____
```

**Note:** The file will be given the original name with a **.SPL** filename extension on your IFS.

## Using MappingTool

**MappingTool** will help you put all the pieces together. You will map spooled file data onto a page with an optional overlay or individual images to create a finished PDF document.

### Before Starting MappingTool

Before using MappingTool, you should have already gathered the parts that you will be putting together:

- Use **ImageMaker** or another product to create an overlay or images and have these placed in the **K:** drive.
- You may want to download a representative spooled file into the **/KOVERLAY** directory of your IFS.
- You may want to find printer specifications for the spooled file, to help you with field lengths and locations.

### Start the MappingTool Program

You can start MappingTool from the shortcut that was placed on your desktop during the Installation process. The shortcut starts the Java program from the **K:\MapTool** folder.

MappingTool has a split screen allowing you to create mapping entries on the top part of the screen while viewing the completed document on the lower portion of the screen. You can adjust the relative size of the two sections using a mouse.

There are five tabs in the top section and three tabs in the bottom section of the screen.

#### Top section:

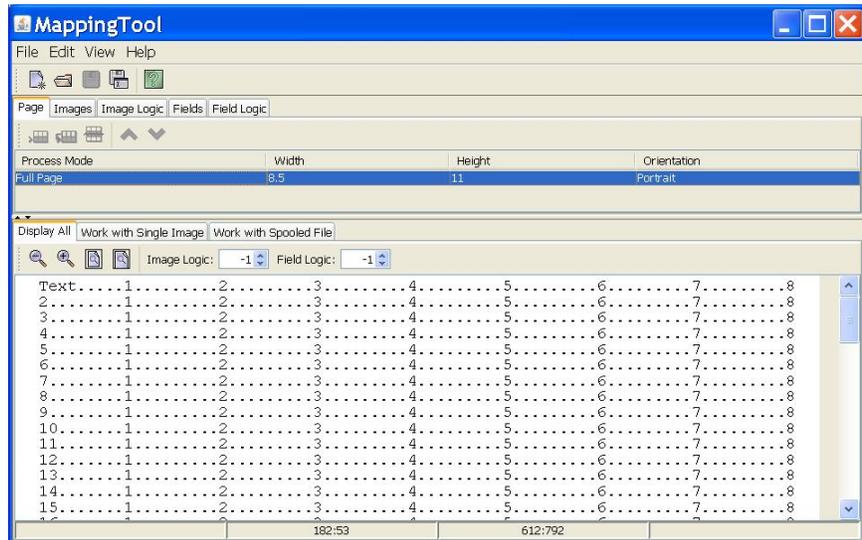
- Page - Defines the page size, rotation and processing mode
- Images - Places overlays or images on the page
- Image Logic - Sets Logic numbers for image selection
- Fields - Maps spooled file text or constants to the page
- Field Logic – Sets Logic numbers for processing the text on a page

#### Lower section:

- Display All - Shows the completed page or lines (for line mode)
- Work with Single Image - Can alter, compress and rename images
- Work with Spooled File - Selects printer data to be mapped

## Defining the Page

1. Select the *Page* tab on the top portion of the screen.
2. Select the appropriate processing mode for this Map file. (See below)
3. Define the Width, Height, and Orientation parameters for the finished PDF page.



### Process Mode:

*Full page* mode processing is the easiest method to map a spooled file. All spooled file lines are sent to the PDF with a single Field definition entry and an optional overlay. You would use this mode when the whole spooled file is placed on the PDF page, using the same fixed font attributes and sizes.

*Field Mapping* mode processing gives you the ability to alter the original spooled file data that will be sent to the PDF page. You would use this mode when you wanted to map individual fields to the PDF or change some of the font attributes.

*Line Logic* mode processing is the most advanced method. It is used to create documents that are more free flowing, such as Sales Reports or G/L Trial Balances. Logic entries are used to determine what type each line is in the spooled file page. Each line from the page can then be written to the PDF with the desired fonts and sizes. Bookmarks can be added to aid the user in navigating the different sections of the reports.

### Width:

The page width is entered in inches with up to 2 decimal places. For example, you may enter 8.5 for letter size, or 8.27 for A4 size paper.

### Height:

The page height is entered in inches with up to 2 decimal places. For example, you may enter 11 for letter size, or 11.69 for A4 size paper.

**Orientation:**

The page orientation is a value that you must select for the page. All objects on the page will be rotated to this orientation for both the screen and the PDF document. Click the field to select one of the available values:

- Portrait - Default value
- Landscape
- Reverse Portrait
- Reverse Landscape

**Top Margin:**

The top margin is entered in inches with up to 3 decimal places. For example, you may enter .25 for a 1/4 inch top margin. The default is 0, for no top margin.

## Cropping an Image

You can crop images with MappingTool to make a smaller file, or to pick pieces of an image to be included in a PDF document.

1. Select the *Work with Single Image* tab on the lower portion of the screen.
2. Expand the lower portion of the screen by dragging the split pane divider higher.
3. Zoom out so that you can see the entire portion of the image that you want to crop.
4. Move the cursor to the upper left corner of the desired crop. Use the left mouse button to drag a box around the portion of the image that you want to extract and release it.
5. Press the **Crop the image** tool on the tool bar.
6. A *Crop* dialog box will appear with the coordinates of the box that you drew. Press the **OK** button to complete the crop.
7. Use the **Save image as** tool on the tool bar to save the cropped image with an appropriate name.

## Compressing an Image

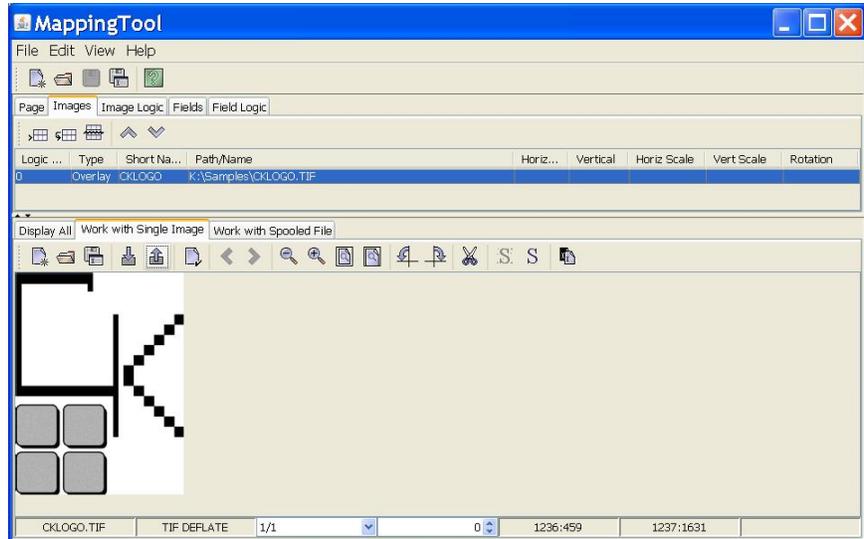
TIFF images that you use can be compressed in a variety of ways. **ImageMaker** uses Packbits to compress, which works well for monochrome images. Color images can be compressed 10 to 50 times smaller using Deflate compression. Therefore, the first step to creating a map is to properly compress any images that you will be using.

1. Select the *Work with Single Image* tab on the lower portion of the screen.
2. Click the **Open an image** tool from the tool bar.
3. Find the desired image and open it. If the image is located on the **K:** drive, you should be able to access the KOVERLAY folder from *My Computer*.  
When you open an image, the compression method will be shown on the status bar, below the image.
4. You can manipulate the image using the toolbar buttons to rotate, despeckle, crop, or invert the colors, as desired, before saving the image. There are also **Import image** and **Export image** tools on the tool bar, that you can use to select an image for display or send an image to the *Images* tab to create a mapping entry.
5. Use the **Save image as...** tool on the tool bar to save the image. Be sure to select the appropriate name, destination, color, and compression type for the image. We recommend Deflate for the compression.

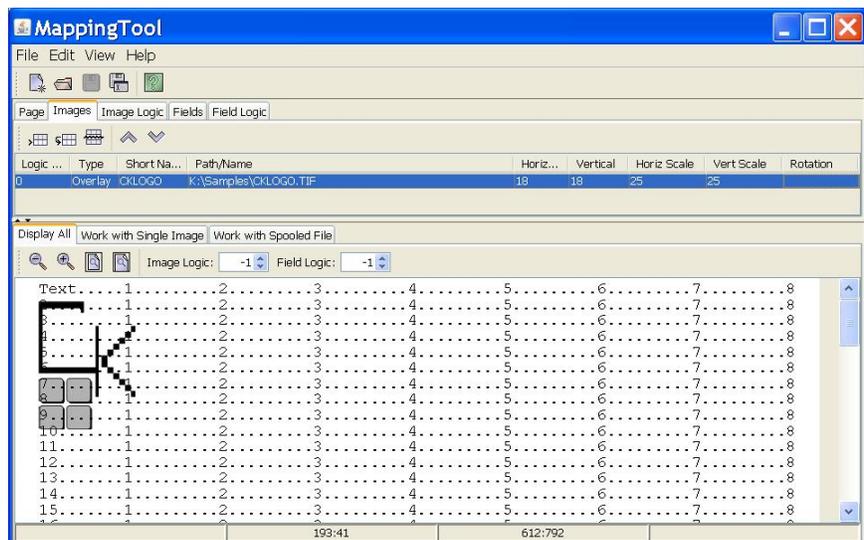
## Mapping an Image

1. Select the *Images* tab, on the top portion of the screen.
2. If you would like to use an image that you are already displaying on the *Work with Single Image* screen, you can press the **Export** tool on its tool bar. That image will be added to the *Images* screen.

As an alternative, you can use the **Add an image** tool in the *Images* tab, then Click in the *Path/Name* field to browse for an image.



3. Select the *Display All* tab, on the bottom portion of the screen for Overlays. The complete page, with this new image, will appear on the screen.
4. You can move, scale, or rotate the image using the parameters on the *Images* screen. Your changes will be reflected on the *Display All* screen.



### Logic Number:

Use the Logic number field to select when an image will be included on the PDF page. The default Logic number is zero, meaning the image will always be included. If you set the Logic number greater than zero, the image will only be included when that Logic number is selected for the page. The Logic numbers are defined using the *Image Logic* tab.

### Type of Image:

Select one of the valid types (After, Before, Duplex, or Overlay). *After* images create a page after the last spooled file page, like a document trailer. *Before* images create a page before the first spooled file page, like a document header. *Duplex* images are placed after each spooled file page and are used for duplex printing. *Overlays* are images that are added to each of the spooled file pages in the PDF.

### Short Name:

The Short Name must follow iSeries member naming conventions. The program will truncate the long name down for you to a maximum of 10 characters without a filename extension. When you transfer the image to the PDFIMAGE file, the member name must match this name.

You may have to correct the name to make it a legal iSeries name. iSeries names must start with a letter or \$#@\*. The following characters can be letters, digits, special characters \$#@\* or an underscore ( \_ ) with no embedded blanks.

### Path/Name:

This is the Path and Name of the image as it is found by the MappingTool program. You can browse for a new image by clicking on this field. You can import this image into the *Work with Single Image* screen using the *Import image* button on its toolbar.

### Horizontal:

The horizontal location of the image on the page, in pixels (72 dots per inch). This position refers to the left side of the image after any rotation.

### Vertical:

The vertical location of the image on the page, in pixels (72 dots per inch). This position refers to the top of the image after any rotation.

### Horiz Scale:

The horizontal scaling of the image. The default value is 100%, if left blank. The scaling factor is applied before the image is rotated.

### Vert Scale:

The vertical scaling of the image. The default value is 100%, if left blank. The scaling factor is applied before the image is rotated.

### Rotation:

Select one of the valid rotation values (0,90,180,270) of the image on the page. This rotation occurs in addition to any page rotation that was defined.

## Defining Image Logic

Image Logic can be used to define when or what images will be included on each PDF page. Just before each spooled file page is converted to a PDF page, any Image Logic records that were defined will be checked.

1. Select the *Image Logic* tab, on the top portion of the screen.
2. Select the *Work with Spooled File* tab on the lower portion of the screen.
3. Click on the **Open a text file** tool on the tool bar, if you have not already done so.
4. Find the desired spooled file and open it. If you have downloaded a representative spooled file from your iSeries to the KOVERLAY directory, you should be able to access the file from *My Computer* in the **K:** drive.
5. Set the desired logic number in the **Field Logic** spinner, on the *Work with Spooled File* screen, that you wish to define.
6. The Spooled File text is intended to give you a quick way of selecting fields to be tested for the Image Logic. Each field that you export from the Spooled File can be sent to the *Image Logic* screen for further definition.  
Select text from the printer file using the **Left mouse** button. Only individual fields or whole single lines may be selected. Multiple lines are not allowed.
7. Press the **Export field** tool on the tool bar. This will export the selected field to the *Image Logic* screen. The new field will be placed directly under the last field that had been exported or selected on the *Image Logic* screen.
8. Repeat steps 6 & 7 to export a group of fields. As an alternative, you can use the *Add a field* or *Copy a field* button on the *Image Logic* screen to create new fields.
9. The Row, Column, and Length of the selected field is automatically coded on the screen for you. The Logical Operator, Relational Operator and Constant fields are also defaulted to compare equal to the exported field. You must select the desired Logic Number, then change any of the fields necessary to get your desired results.

**Notes:** Comparisons are treated like a series of OR's, except where you have specifically coded an AND operator.

The Image Logic records are processed from top to bottom, in the order that they were defined. The first Select statement this is satisfied, will set its Logic number. That Logic number is then used to select the corresponding images to be written to the PDF page from the *Images* screen.

### Logic Number:

The Logic number is used to select which images will be included on the PDF page. As an example, you might have two or more different Invoice overlays that you want to use, one for each branch. The Image Logic could check each

spooled file page to determine which branch the Invoice was for. In this example, you would define one Logic number for each branch.

**Row:**

The row in the spooled file, that contains the information that you wish to check. This value is typically set using the Export function from the *Work with Spooled File* screen.

**Column:**

The column in the spooled file, that contains the information that you wish to check. This value is typically set using the Export function from the *Work with Spooled File* screen.

**Length:**

The length of the spooled file field that you will be checking. This is a required value that is typically set using the Export function from the *Work with Spooled File* screen..

**Logical Operator:**

The Logical Operators are SELECT, OMIT, or AND. The select or omit comparison statements are ORed together, unless an AND operator is used. That is, if the select or omit comparison condition is met, that Logic number is either selected or omitted. If the condition is not met, the system proceeds to the next comparison.

When a Select condition is satisfied, that Logic number is set. The remaining statements are not examined for that spooled file page. OMIT is used to omit a Logic number from consideration. The remaining comparisons will continue for the next Logic number, if any exist, until a Select condition is satisfied.

AND is used to combine two or more comparisons together before a Logic number is either selected or omitted.

**Relational Operator:**

The Relational Operators are EQ, NE, LT, GT, LE, and GE. They are used for comparing the value found at the specified location in the spooled file page, to the Constant named in the following field.

**Constant:**

This constant value is used in the Select/Omit comparison statements.

## Mapping Fields

Fields are mapped from a spooled file to the PDF page differently, depending on the Process Mode. In *Full page* mode, a single Text record definition will map all of the spooled file lines to the page. In *Field Mapping* mode, each line or individual fields can be mapped to the page separately. The system will create a record for each spooled file line (using the **Map All Rows** tool) and allow you to alter or supplement those lines, as needed. Invoices and Purchase Orders are examples of documents that might use either *Full page* or *Field Mapping* mode.

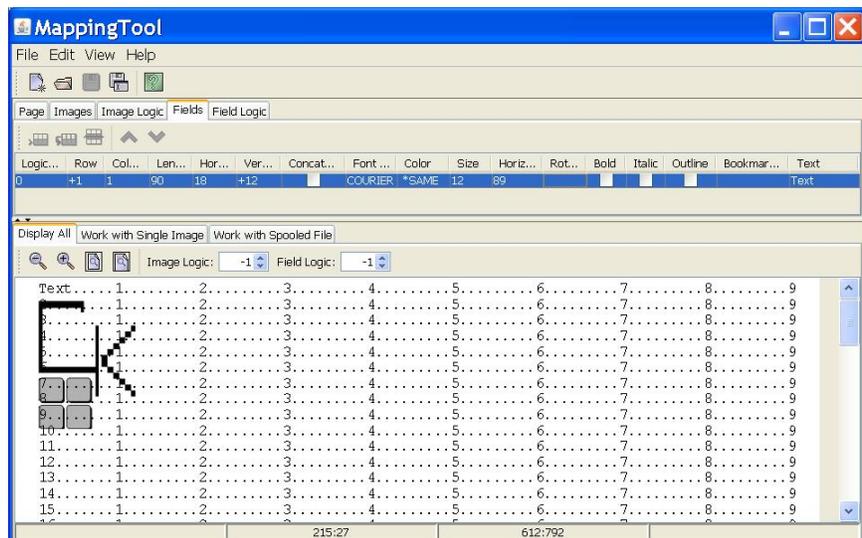
In *Line Logic* mode, each line of the spooled file is written to the PDF page relative to the previous line. Each line from the spooled file is written to the PDF, one line at a time. Field Logic is used to determine what type of line is written next. A Sales Report is an example of a document that could be written using *Line Logic* mode.

1. Select the *Fields* tab, on the top portion of the screen. This is where fields for the current mapping will be defined.
2. Select the *Work with Spooled File* tab on the lower portion of the screen.
3. Click on the **Open a text file** tool, if you have not already done so.
4. Find the desired spooled file and open it. If you have downloaded a representative spooled file from your iSeries to the KOVERLAY directory, you should be able to access the file from *My Computer* in the **K:** drive.
5. For a new mapping, from the *Fields* tab, you should press the **Map All Rows** tool on the tool bar, to set the margins & page characteristics.

The definitions that you enter on the *Map All Rows* dialog box will be used to automatically generate the records needed for mapping your spooled file. You may wish to change some of the field attributes. You will be able to see how the spooled file data will appear in the PDF, with each attribute change.

### Full Page mode:

For *Full Page* mode, one line on the *Fields* screen will define every line on the page.

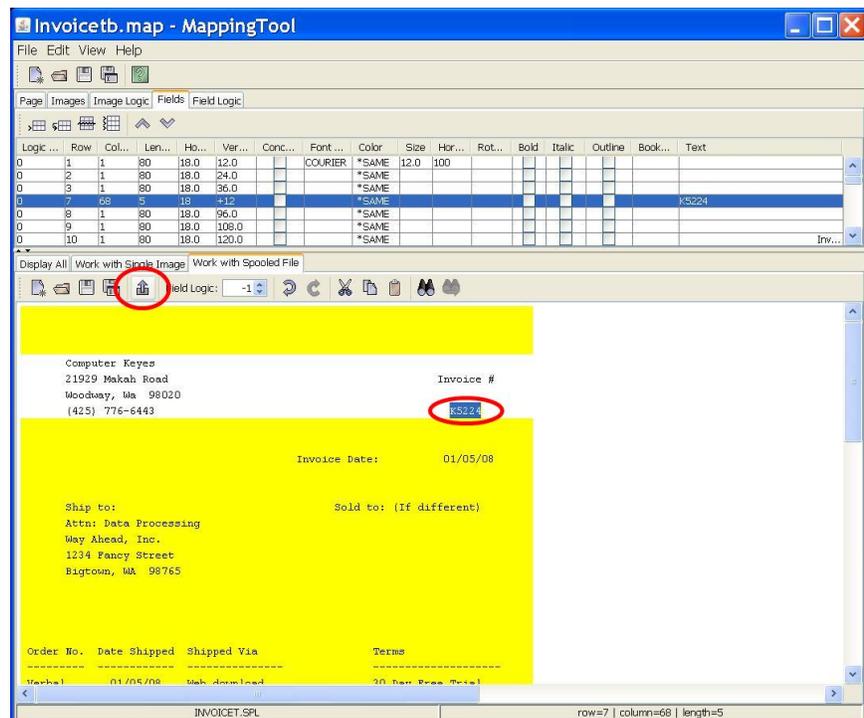


**For Field Mapping or Line Logic modes:**

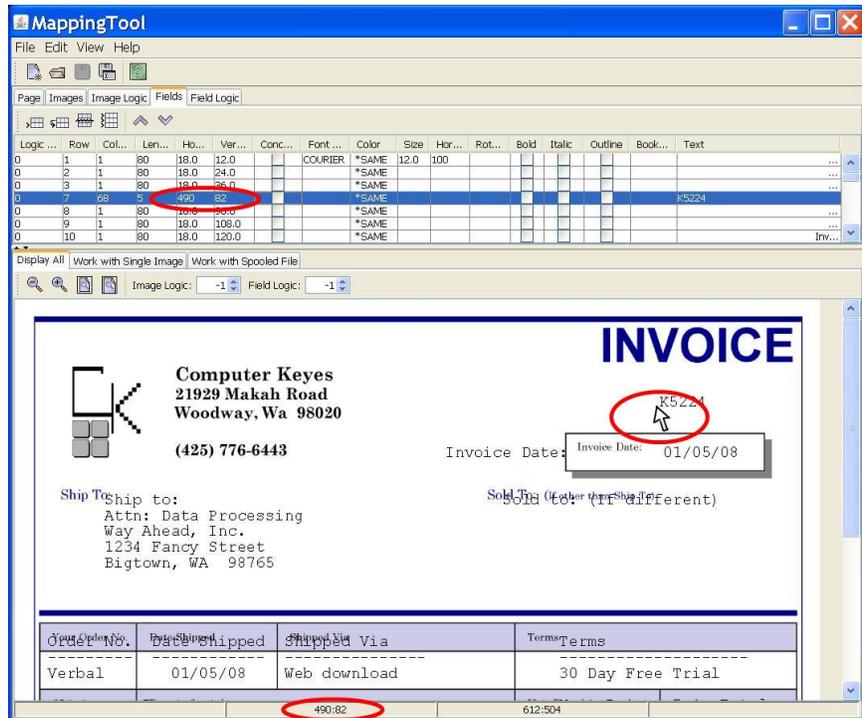
- The Spooled File text is intended to give you a quick way of selecting fields to be included on the PDF document. You may export fields from the Spooled File to be sent to the *Fields* screen for further definition.

To export a field you will select text from the Spooled File using the **Left mouse** button. Only individual fields or whole single lines may be selected. Multiple lines are not allowed.

- Press the **Export field** tool on the tool bar. This will export the selected field to the *Fields* screen. The new field will be placed directly under the last field that had been exported or selected on the *Fields* screen.



- Repeat steps 6 & 7 to export a group of related fields. As an alternative, you can use the **Add a field** or **Copy a field** tool on the *Fields* screen to create new fields.
- Select the *Display All* tab, on the lower portion of the screen. You should see the new fields appearing on the screen below the last fields that had been exported or selected. This is the default location.
- Move the cursor to the location on the screen where you want the first of the new fields to be placed. You can read the exact location of the cursor in pixels (72 dpi), on the bottom status bar. Code this value in the Horizontal and Vertical location in the *Fields* screen, for the first field in the group. All of the newly exported fields will move to that new location.



11. Use the *Fields* screen parameters to set the desired fonts, the location and other attributes for the new fields.
12. Switch back to the *Work with Spooled File* screen to see all of the fields that have already been mapped. Mapped fields appear in yellow.

**Logic Number:**

Use the Logic number field to select when a field will be included on the PDF page. This is typically only used for *Line Logic* mode processing, but can also be used in *Field Mapping* mode, if you need to. When you set the Logic number to zero, the field will always be included on the page. For *Field Mapping* mode, you would generally leave all the fields with a zero Logic number.

For *Line Logic* mode, you will set a different Logic number, greater than zero, for each group of fields that make up a line. Each group of fields, defined by one Logic number, will be written to the PDF page when that Logic number is selected. The Logic numbers are defined using the *Field Logic* tab.

**Row:**

The row in the spooled file, where the field will be extracted. For *Full page* mode, set this field to +1, for processing all of the lines of the spooled file.

For *Field Mapping* mode, enter a specific row or you can enter a Plus or Minus prior to the value to select a row in relation to the previous row. For example, a value of +1 would select the next row. If you leave this field blank, it will take on the value of the previous row.

In *Line Logic* mode processing, this field must be left blank. Every row is processed, depending on the Logic records to create the PDF page.

**Column:**

The column in the spooled file, where the field will be extracted. You can enter a specific column or you can enter a Plus or Minus prior to the value to select a column in relation to the previous field's column. If you leave this field blank, it will take on the value of the previous field.

For *Full page* mode, this will usually be set to 1.

**Length:**

The length of the spooled file field that will be extracted. This is a required value. For *Full page* mode, set this to the width of the spooled file page.

**Horizontal:**

The horizontal location of the field on the PDF document. This value is in pixels (72 dots per inch) with up to 2 decimal places. You can enter exact locations or you can enter a Plus or Minus prior to the value to move the field in relation to the previous field location. If you leave this field blank, it will take on the value of the previous field.

For *Full page* mode, set this to the desired left margin. A value of 18, for example, will start the first character at 18/72 or 1/4 inches from the left edge of the page.

**Vertical:**

The vertical location of the field on the PDF document. This value is in pixels (72 dots per inch) with up to 2 decimal places. You can enter exact locations or you can enter a Plus or Minus prior to the value to move the field in relation to the previous field location. If you leave this field blank, it will take on the value of the previous field.

For *Full page* mode, use a + value to set the line spacing. A +12 value, for example, will allow 66 lines to be placed on the page. (12 x 66 = 792 which is 11 inches long.)

**Concatenate:**

Use this check box to concatenate this field with the previous field. The previous field will be right trimmed of all blanks, before the text from this field is added to the string. If you want one or more blanks between the fields, the blanks must appear on the front of this field. Do not use this in *Full page* mode.

**Font Name:**

Click in this field to get a list of available fonts that you can select. If you leave this field blank, it will take on the value of the previous field. The available fonts are Arial, **Comic**, Courier, Helvetica, **LBright**, **LConsole**, **LSans**, MICR, Palatino, SansSerif, *Script*, Symbol, Times, **TypeWtr** & ZapfDingbats.

**Note:** Courier, **LConsole**, and **TypeWtr** are Fixed fonts. The others are variable fonts. Fixed fonts are more easily lined up in columns. Each character in a word will take up the same amount of room on the page.

For *Full page* mode, you would typically use one of the Fixed fonts.

**Color:**

Click in this field to get a color chart for selecting a color. If you set this field to \*SAME, it will take on the color of the previous field.

**Size:**

The size of the font in points (each point is 1/72 of an inch). If you leave this field blank, it will take on the value of the previous field.

**Horiz Scale:**

The horizontal scaling factor (percentage) to be applied to this text. If you leave this field blank, it will take on the value of the previous field. You can use the Horizontal scaling to fit more characters on a page, to make them short and fat or to make them tall and thin.

**Rotation:**

You may click on this field to select one of the valid rotation values (0,90,180,270) of the field on the page. This rotation value is in addition to any page rotation, which rotates all objects on the page. If you leave this field blank, it will take on the value of the previous field. Do not use this for Full page mode.

**Bold:**

Use this check box for **bolding** the text.

**Italic:**

Use this check box for *italicizing* the text.

**Outline:**

Use this check box to display an outline of the text. To outline a field with a different color, you can print the same field twice in the same location, one with and one without Outline checked.

**Bookmark Level:**

Bookmarks can be added to the PDF to aid the user in navigating the different sections of a report. Set a level of either 1 or 2 to make a bookmark at that level. Leave this field blank for regular fields. This is typically only used in *Line Logic* mode, but can be used in *Field Mapping* mode.

Bookmarks will only be added to the PDF, when the value of the selected fields actually change. In this way, you can name a field that repeats as a bookmark. Each time the value changes, this will make another bookmark entry in the PDF.

**Text:**

This text is purely optional, except for constant values. If you leave both the Row and Column parameters blank, this value is used as a Constant. The Constant text is used in place of data from the spooled file. The Length parameter will limit the length of the Constant text.

## Defining Field Logic

Field Logic is typically only used for *Line Logic* mode. However, it can be used in *Field Mapping* mode, if you need to. In *Field Mapping* mode, the system will check the Field Logic entries once for each page. For *Line Logic* mode, the system will check the Field Logic once for each line of the spooled file.

In *Line Logic* mode, all lines will be sent to the page using the default field definition (Logic number 0), except for those lines that you customize with Logic entries. The Logic entries can be used to identify specific lines in the spooled file that you want to appear differently than the default. Just before each spooled file line is processed, the Field Logic will be checked. If one of the Logic numbers is set for that line, the Field definitions with that Logic number will be used.

1. Select the *Field Logic* tab, on the top portion of the screen.
2. Select the *Work with Spooled File* tab on the lower portion of the screen.
3. Click on the **Open a text file** tool on the tool bar, if you have not already done so.
4. Find the desired spooled file and open it. If you have downloaded a representative spooled file from your iSeries to the KOVERLAY directory, you should be able to access the file from *My Computer* in the **K:** drive.
5. Set the desired logic number in the **Field Logic** spinner, on the *Work with Spooled File* screen, that you wish to define.
6. The Spooled File text is intended to give you a quick way of selecting fields to be tested for the Field Logic. Each field that you export from the Spooled File will be sent to the *Field Logic* screen for further definition.  
Select text from the printer file using the **Left mouse** button. Only individual fields or whole single lines may be selected. Multiple lines are not allowed.
7. Press the **Export field** tool on the tool bar. This will export the selected field to the *Field Logic* screen. The new field will be placed directly under the last field that had been exported or selected on the *Field Logic* screen.
8. Repeat steps 6 & 7 to export a group of fields. As an alternative, you can use the **Add a field** or **Copy a field** tool on the *Field Logic* screen to create new fields.
9. The Row, Column, and Length of the selected field is automatically coded on the screen for you. The Logical Operator, Relational Operator and Constant fields are also defaulted to compare equal to the exported field.

**Notes:** Comparisons are treated like a series of OR's, except where you have specifically coded an AND operator.

The Field Logic statements are processed from top to bottom, in the order that they were defined. The first Select statement that is satisfied, will set its Logic number. That Logic number is then used to select the corresponding fields to be written to the PDF page from the *Fields* screen.

**Logic Number:**

The Logic number is used to select which fields will be included on the PDF page. In *Line Logic* mode, each type of line that you want to appear different than the default should be identified by a different Logic number. In this way, you can write the lines to the PDF with the desired attributes. The Logic numbers in the *Field Logic* screen must match the Logic numbers in the *Fields* screen.

**Row:**

The row in the spooled file, that contains the information that you wish to check. This value is usually left blank for *Line Logic* mode, so that all rows are processed, one at a time. If you code a row in *Line Logic* mode, the Field definition with this Logic number will be used as the default entry (replacing the Logic 0 entry) for any pages that satisfy this logic.

**Column:**

The column in the spooled file, that contains the information that you wish to check. This value is typically set using the Export function from the *Work with Spooled File* screen.

**Length:**

The length of the spooled file field that you will be checking. This is a required value that is typically set using the Export function from the *Work with Spooled File* screen..

**Logical Operator:**

The Logical Operators are SELECT, OMIT, or AND. The select or omit comparison statements are ORed together, unless an AND operator is used. That is, if the select or omit comparison condition is met, that Logic number is either selected or omitted. If the condition is not met, the system proceeds to the next comparison.

When a Select condition is satisfied, that Logic number is set. The remaining statements are not examined for that spooled file line. OMIT is used to omit a Logic number from consideration. The remaining comparisons will continue for the next Logic number, if any exist, until a Select condition is satisfied.

AND is used to combine two or more comparisons together before a Logic number is either selected or omitted.

**Relational Operator:**

The Relational Operators are EQ, NE, LT, GT, LE, and GE. They are used for comparing the value found at the specified location in the spooled file line, to the Constant named in the following field.

**Constant:**

This constant value is used in the Select/Omit comparison statements.

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# Appendix

## Map File file structure

You can manually enter or change mapping entries, while they are on the iSeries, if desired. Each map will be a member of the file PDFMAP. IBM's SEU (Source Entry Utility) can be used to maintain the entries.

There are several different kinds of records that are used to define the PDF mapping entries.

- Page Header
- Image Records
- Text Records
- Logic Records

## Rules for entering numeric values

The numeric values keyed in the mapping entries may be keyed in any free form method, except where specified. They do not have to be left or right justified. Fractional values may be keyed using a decimal point. Plus and minus signs (+/-) may be used in some cases to indicate that the values are to be added or subtracted from the value in the previous record. A blank entry will either be set to a default value (where specified) or it will take on the value from the previous record.

## Positional values

All positional values are measured in 72 dots per inch. Horizontal measurements start from the left side of the page for images, or from the left margin for text. Vertical measurements start from the top of the page for images, or from the top margin for text. A Horizontal value of 144, for example, would be located exactly 2 inches from the left side of the page for an image, or 2 inches from the left margin for text. A Vertical value of +18 would be located exactly 1/4" down from the previous field .

## Page Header

The Page Header is used to define the page size, the rotation of the PDF document, and the processing mode. This should be the first record in the file.

There are three different modes of processing that you can choose:

- *Full page* mode is the easiest method to map a spooled file. All spooled file lines are sent to the PDF with a single Text entry and an optional overlay. You would use this mode when the whole spooled file is to be placed on the PDF page, using the same fixed font.
- *Field Mapping* mode is used to create documents with fields that fall in specific positions on the page, with an optional overlay. You would use this mode when you wish to map individual fields to the PDF with different font attributes or sizes.
- *Line Logic* mode is the most advanced method. It is used to create documents that are more free flowing, such as Sales Reports or G/L Trial Balances. Logic entries are used to determine what type each line is in the spooled file page. Each line from the page can then be written to the PDF with the desired fonts and sizes. Bookmarks can be added to aid the user in navigating the different sections of the reports.

### Record layout:

| <u>Columns</u> | <u>Description</u>   |
|----------------|--|
| 001-001        | "P" - Record type  |
| 002-002        | "3" - File version number  |
| 004-008        | Horizontal page dimensions (inches with 2 decimals)                  |
| 010-014        | Vertical page dimensions (inches with 2 decimals)                    |
| 016-018        | Page rotation (0,90,180,270); rotates all objects on the page        |
| 020-020        | Processing mode (F, M, or L); "F"ull Page, "M"apping, or "L"ine mode |
| 022-026        | Top margin (inches with up to 3 decimals)                            |

### Examples:

```
...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7 ...+...  
P3 8.27 11.69 F .25
```

**This defines an A4 size page, in Full page mode with a 1/4 inch top margin.**

```
P3 8.5 7 0 M
```

**This defines an 8 1/2 inch wide by 7 inch long page, in Mapping mode.**

```
P3 8.5 11 90 F
```

**This defines a standard letter size page that is rotated 90 degrees to the right (landscape).**

## Image Records

Image Records can be used to place overlays or images on the page. Images must be TIFF images, located in the file called PDFIMAGE.

The TIFF compression methods supported are;

- Uncompressed (not recommended)
- Group 3 (Modified Huffman)
- Group 4
- Run length encoded (Packbits)
- JPeg
- Deflate (usually the best compression)

**Note:** Multi-tiled images are not supported, all images must be saved with a single Tile. The Mapping Tool will do this for you.

### Record layout:

| Columns | Description  |
|---------|--|
| 001-001 | "I" - Record type  |
| 004-013 | Name of image member (in the file PDFIMAGE)  |
| 016-018 | Image rotation (0,90,180,270); this adds to the page rotation  |
| 020-025 | Horizontal position (72 dpi, default 0); upper left corner of the image after rotation   |
| 027-032 | Vertical position (72 dpi, default 0); upper left corner of the image after rotation   |
| 034-036 | Horizontal Scaling of the image (default 100%); before rotation  |
| 038-040 | Vertical Scaling of the image (default 100%); before rotation  |
| 042-044 | Logic number; as defined in the Image Logic entries  |
| 046-046 | Type of image; use this image "A"fter the last page, "B"efore the first page, as a "D"uplex image (printed on the back side), or as an "O"verlay on each spooled file page |

### Examples:

```

...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7 ...+...
P3 8.5 7 F

```

```

I INVOICE O

```

**This places an image called INVOICE on each page of the spooled file as an Overlay.**

```

I INTRO B

```

**This creates a page with an image called INTRO before the first page of the spooled file.**

```

I TERMS A

```

**This creates a page with an image called TERMS after the last page of the spooled file.**

```

P3 8.5 11 0 M
I Logo 144 36 50 50 1 O

```

**The image called LOGO will be placed 2 inches from the left (144) and 1/2 inch down from the top (36).**

**It will be scaled (shrunk) by 50% of its original size in both the Horizontal and Vertical directions.**

**It will only be included on a page when Image Logic #1 is selected.**

## Text Records

Text Records are used to describe how to place spooled file data or string constants on the page. If both the Row and Column fields are left blank, this causes the Description field to be treated as a string constant. If only one of the Row or the Column fields is left blank, that value takes on the Row or Column of the previous record. The Row is always keyed as "+1" for Full page mode.

### Record layout:

| <u>Columns</u> | <u>Description</u>  |
|----------------|---|
| 001-001        | "T" - Record type   |
| 004-006        | Row in the spooled file (+/-, 1 - 128)  |
| 008-010        | Column in the spooled file (+/-, 1 - 228)   |
| 012-014        | Length of data (1-228); this is a required field  |
| 016-018        | Print direction (0,90,180,270); this adds to the page rotation  |
| 020-025        | Horizontal location on page (+/-, 72 dpi) 2 decimals  |
| 027-032        | Vertical location on page (+/-, 72 dpi) 2 decimals  |
| 034-036        | Horizontal scaling of the text (default 100%)   |
| 042-051        | Font name; Arial, Comic, Courier, Helvetica, LBright, LConsole, LSans, MICR, Palatino, SansSerif, Script, Symbol, Times, TypeWtr & ZapfDingbats<br>(blank takes on the previous font) |
| 053-056        | Font size to tenths of a Point (blank takes on the previous font size)  |
| 058-058        | Concatenation (C or blank); adds this line to the previous text after trimming all blanks from the original text)   |
| 060-068        | Color RGB value; 0-255,0-255,0-255 (blank takes on the previous color)  |
| 070-070        | Bold (B or blank)   |
| 072-072        | Italics (I or blank)  |
| 074-074        | Outline (O or blank)  |
| 078-078        | Bookmark level (1,2 or blank); leave blank for no bookmark  |
| 082-084        | Logic number; as defined in the Field Logic entries   |
| 089-168        | Text description or a string constant   |

Examples:

```
...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7 ...+... 8 ...+...
P3 8.5 11 F
I OVERLAY O
T +1 1 80 10 +12 L Gothic 12
```

**This is a Full page mode example. It will map any spooled file with the image called OVERLAY to the PDF. It will place all the rows for columns 1 through 80 on the page using a 12 point font, called LGOTHIC.**

```
P3 8.5 11 M
I INVOICE O
T 07 68 05 468 72 Courier 24 140140255 1
T 07 68 05 +0 0 0 0 O
```

**This is a Mapping mode example. It will map individual fields from the spooled file onto the image INVOICE. The value from line 7 column 68 for 5 characters is picked up from the spooled file and placed on the page at position 468 & 72 (6.5" from the left and 1" down). It will be printed in 24 point Courier with a medium blue color (RGB of 140, 140, 255). The blue characters will then be Outlined in black. This field will be used as a PDF level 1 bookmark.**

```
T 10 55 08 480 120 Arial 10.5 2550 0 B I
```

**Eight characters from line 10 column 55 are placed on the page at 480 from the left and 120 down. It will be printed in a 10.5 point Arial font in both Bold and Italics. The color will be Red.**

```
T 10 55 08 480 120 Courier 12 0 0 0 B
T 13 08 31 36 170
T +1 30 +12
```

**This last line picks up the 30 character value from line 14 starting in column 8. It will be placed on the page at position 36 from the left (1/2 inch) and 182 down from the top. The font is 12 point Courier printed in black, but it is not bolded.**

## Logic Records

Logic Records are used to determine what type of page or record was found to be processed next. When processing a spooled file in Mapping mode, you name the Row and Column of a field that you wish to check. In Line mode, you will leave the Row blank, as each row in the spooled file will be checked, one at a time. The logic records are used to figure out what type of record is in each of the rows on the page.

### Record layout:

| Columns | Description  |
|---------|--|
| 001-001 | "L" - Record type  |
| 004-006 | Row in the spooled file (1 – 128); leave blank for Line mode   |
| 008-010 | Column in the spooled file (1 – 228); this is a required field |
| 012-014 | Length of data (1-228); this is a required field               |
| 016-016 | Type of logic (I or T); "I"mage or "T"ext logic definition     |
| 022-024 | Logic number (1 – 999);  |
| 026-026 | Logical Operator (S,O,A); "S"elect, "O"mit, or "A"nd statement |
| 028-029 | Relational Operator (EQ,NE,LT,GT,LE,GE)                        |
| 051-100 | Constant value   |

### Examples:

```

...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7 ...+...
L      1  80 T      1  S EQ

```

**This will select any line that is blank (in Line mode) and turns on Logic #1.**

```

L      1  6  T      2  S EQ          GLTBAL

```

**This will select any line that has GLTBAL in column 1 and sets on Logic #2.**

```

L      28 4  T      3  S EQ          FROM
L      1  7  T      3  A NE          ACCOUNT

```

**These two records will select any line that has FROM in column 28 but does not say ACCOUNT in column 1. If found the line would set on Logic #3.**

```

L  5  33 6  I      1  S EQ          Credit
L  5  33 6  I      2  S NE          Credit

```

**These records are used in Mapping mode to select pages that say Credit in column 33 of row 5 or not. Logic #1 is set on when it finds "Credit", and Logic #2 is set on otherwise.**

**This would allow the Image Records to select which overlay to use for Invoices or Credit memos.**



## Using the MICR font

The MICR font can only be used by those who purchase the font. The font that we have used is licensed from Adobe. You can obtain the font from their website at (<http://www.adobe.com> ). Be aware that Adobe has more than one MICR font. We have coded for the **MICR Medium** font which is a Postscript Type I font. This is not the MICR Std font, which is an Open Type font not supported by Java. You can do a search for *MICR Medium* to find the correct font on their website.

The font itself is not distributed with the PDF files. If you send a PDF document containing MICR characters, the recipient will need to purchase the MICR Medium font, in order to display and print the PDF with any MICR characters.

## Using Barcodes

Barcodes can be placed on the page, just like any other data. The Font Size will control both the size of the characters and the size of the barcode symbol, which will appear just above the human readable text. Horizontal Scaling can also be used to widen or narrow the symbol, if desired. Be aware that there are limits to how large or small the symbol will be generated, based on barcode standards.

When using MappingTool, a box will be drawn where the barcode symbol will appear on the page. The box will include any necessary Quiet Zones. This will help you leave enough room for the symbols that will be produced.

### Check Digits:

Valid check digits will be generated and included automatically for you, where appropriate. It is recommended that you code a field length that does not include the check digit, for EAN or UPC numbers. If you supply a check digit in your data, it will be used even if it is the wrong value. This can cause the system to produce an invalid barcode. The exceptions are ISBN, ISMN and ISSN numbers. Check digits that you might supply for those numbers will not be used.

### ISBN (Bookland) and ISMN Numbers:

ISBN and ISMN numbers can be encoded as EAN-13 barcodes. You must supply either 978 or 979 in front of those numbers, respectively. A valid EAN-13 check digit will be generated for you, replacing any check digit that you might supply.

### ISSN Numbers:

ISSN numbers can be encoded as EAN-13 barcodes. You must supply 977 in front of the ISSN number. '00' will be added at the end for you, replacing any ISSN check digit that you might supply. A valid EAN-13 check digit will be added.

### Supplementals:

2 digit or 5 digit Supplementals can be added to any EAN or UPC barcode. Supplementals are typically used for publications. It is recommended that you Concatenate the Supplemental to an EAN or UPC barcode, rather than trying to position the symbol yourself. This will ensure that the Supplemental symbol appears in the correct location, right after an EAN or UPC barcode symbol.

Symbol font Character Map

|   | 4 | 5 | 6 | 7 | 8 | 9 | A | B   | C | D | E | F |
|---|---|---|---|---|---|---|---|-----|---|---|---|---|
| 0 |   | Π | ̄ | π |   |   | € | °   | ⌘ | ∠ | ◇ |   |
| 1 | A | Θ | α | θ |   |   | Υ | ±   | ℑ | ∇ | < | > |
| 2 | B | Ρ | β | ρ |   |   | ' | "   | ℔ | ® | ® | ∫ |
| 3 | X | Σ | χ | σ |   |   | ≤ | ≥   | ∅ | © | © | ∫ |
| 4 | Δ | T | δ | τ |   |   | / | ×   | ⊗ | ™ | ™ |   |
| 5 | E | Υ | ε | υ |   |   | ∞ | ∞   | ⊕ | Π | Σ | J |
| 6 | Φ | ς | φ | ϖ |   |   | f | ∂   | ∅ | √ | ( | ) |
| 7 | Γ | Ω | γ | ω |   |   | ♣ | •   | ∩ | · | ( | ) |
| 8 | H | Ξ | η | ξ |   |   | ♦ | ÷   | ∪ | ⊥ | ( | ) |
| 9 | I | Ψ | ι | ψ |   |   | ♥ | ≠   | ⊃ | ^ | [ | ] |
| A | ∅ | Z | φ | ζ |   |   | ♠ | ≡   | ⊇ | ∨ |   |   |
| B | K | [ | κ | { |   |   | ↔ | ≈   | ∄ | ↔ | [ | ] |
| C | Λ | ∴ | λ |   |   |   | ← | ... | ⊂ | ← | [ | ] |
| D | M | ] | μ | } |   |   | ↑ |     | ⊆ | ↑ | { | } |
| E | N | ⊥ | ν | ~ |   |   | → | —   | ∈ | ⇒ |   |   |
| F | O | _ | ο |   |   |   | ↓ | ↙   | ∉ | ↓ |   |   |

ZapfDingbats font Character Map

|   | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 |   | ☆ | ✿ | □ | ( |   |   | ⑤ | ① | ⑦ | ➡ |   |
| 1 | ✠ | ★ | ✿ | □ | ) |   | ☾ | ⑥ | ② | ⑧ | ➡ | ➡ |
| 2 | ✂ | ✧ | ☀ | □ | ( |   | ! | ⑦ | ③ | ⑨ | ▶ | ◀ |
| 3 | ✂ | ✱ | ✿ | ▲ | ) |   | ! | ⑧ | ④ | ⑩ | ▶ | ➡ |
| 4 | ✂ | ✱ | ❄ | ▼ | < |   | ♥ | ⑨ | ⑤ | ➡ | ▶ | ↘ |
| 5 | ✂ | ☄ | ❄ | ◆ | > |   | ♠ | ⑩ | ⑥ | → | ↪ | ↩ |
| 6 | ◆ | ★ | ❄ | ◆ | < |   | ♠ | ① | ⑦ | ↔ | ↪ | ↩ |
| 7 | ◇ | ✱ | ☀ | ◐ | > |   | ♠ | ② | ⑧ | ↕ | ➡ | ↘ |
| 8 | ★ | ✱ | ☀ |   | < |   | ♣ | ③ | ⑨ | ▶ | ➡ | ➡ |
| 9 | ☆ | ☀ | ✿ |   | > |   | ◆ | ④ | ⑩ | ➡ | ➡ | ↘ |
| A | ♣ | ☀ | ✿ | ■ | [ |   | ♥ | ⑤ | ① | ↘ | ➡ | → |
| B | ☆ | ✱ | ✿ | ‘ | ] |   | ♠ | ⑥ | ② | → | ➡ | ↘ |
| C | ☆ | ✱ | ● | ’ | { |   | ① | ⑦ | ③ | ➡ | ➡ | ➡ |
| D | ☆ | ✱ | ○ | “ | } |   | ② | ⑧ | ④ | → | ➡ | ➡ |
| E | ☆ | ✿ | ■ | ” |   |   | ③ | ⑨ | ⑤ | ➡ | ➡ | ➡ |
| F | ☆ | ✿ | □ |   |   |   | ④ | ⑩ | ⑥ | ➡ | ➡ |   |

## Sample Barcodes

Code 128



Code 39



EAN-13



EAN-8



UPC-A



UPC-E



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