# Chapter 1. Advanced use of IBM Infoprint Designer for iSeries

IBM Infoprint Designer for iSeries provides a fully-graphical document composition interface to the iSeries-AS/400 printing system. It supports the requirements of today's complex documents and reports, producing fully electronic documents combining data, text, electronic forms, graphics, image, bar coding and typographic fonts. Infoprint Designer can be used for the design of new output applications or the re-engineering of existing applications.

Infoprint Designer consists of three components

**Overlay Editor**    designs overlays (electronic forms) to be used in the print application

**Image Editor**    designs images to be used in the print application

**Layout Editor**    puts all the design components together into the final electronic document

With Infoprint Designer you can build complex electronic print applications easily. It manages the upload of the resources you design to the iSeries system. Then, once the printer file is enabled for use with Infoprint Designer resources, the original application is automatically transformed with your new design and layout.

## 1.1  Getting started with Infoprint Designer

The manual, *IBM Infoprint Designer for iSeries: Getting Started*, G544-5773, is the primary reference for use with this product. It covers topics such as product prerequisites, installation and the basic tasks within each of the three components. It also describes the formatting required to produce more complex applications, such as an "either/or" page layout. For example, whether to print the final (totals) page of an invoice, or to print the standard full-page item listing page within the invoice. The manual then describes how to implement the new design and layout with the original print application.

The chapter in this Redbook covers more advanced use of Infoprint Designer. You should read and thoroughly understand the Getting Started manual before using the information in this chapter.

## 1.2  Setting up the PC libraries

You may need to tell Infoprint Designer the name and location of "libraries" where Infoprint Designer can find the AFP resources you use and/or create. These are actually Windows directories on your PC. Infoprint Designer already has the following default locations for:

- AFP overlays
- AFP font resources (coded fonts, character sets, code pages)
- images (AFP page segments, PC TIFF files) Be sure to introduce all tables and figures with a cross reference. Table 1 on page 5.

The paths for the above resources are stored in a file called the *library profile*, with an extension of LBP. Infoprint Designer creates the following two library profiles in the \DESIGNER\USERISIS directory during the installation process:

**DEFAULT.LBP**    This is the default library profile for use with Infoprint Designer. The fonts directory path specifies AFP outline fonts.

**RASTER.LBP**    This alternative library profile specifies a fonts directory containing AFP raster (bitmap) fonts.

AFP outline fonts are resolution-independent scalable fonts that provide an almost unlimited range of point sizes. However your AFP printer must be capable of receiving such fonts. If your printer does not accept them, or you are using an ASCII printer with Host Print Transform, normal font substitution will occur (typically substitution of printer-resident for host-resident fonts).

Both library profiles specify default paths as shown in Table 1 on page 5. This table also shows the default PC file suffix used to denote a resource type.

To check your library profile, select **Defaults - Libraries** from the main menu in Infoprint Designer. You cannot change it from here - instead use **Edit - Change library**. However, avoid doing this in the middle of a project. The preferred way of switching to a new library profile is to select **File - New project** and browse for a different library profile. (See the Figure 1, "Starting an overlay project" on page 6).

*Table 1.  Infoprint Designer default AFP resource locations*

| Default Infoprint Designer location C:\DESIGNER | Type of AFP resources stored | Default PC file suffix of AFP resource |
|---|---|---|
| \OGL | Overlay source files | OGL |
| \OVL240 | 240-pel overlay objects | OVL |
| \OVL300 | 300-pel overlay objects | OVL |
| \OVL600 | 600-pel overlay objects | OVL |
| \FONTS\CODEPAGE | Font code pages | none |
| \FONTS\OUTLINE | Outline fonts | OLN |
| \FONT\RASTER | 240-pel and 300-pel raster fonts | 240, 300 |
| \PSEG240 | 240-pel page segments | 240 |
| \PSEG300 | 300-pel page segments | 300 |
| \PSEG600 | 600-pel page segments | 600 |
| \TIFF | PC tagged image format (TIFF) files | TIF |
| \PPFA | Page and form definition source files | PFA |

The location for page and form definition source is not defined in the library profile, but defaults to \DESIGNER\PPFA.

It is a good idea to define your own libraries for storing self-created resources such as overlays and page segments. Infoprint Designer uses common suffixes such as 240, 300 and 600 to distinguish between different resolutions of fonts. These values are also used for convenience with page segments but it is the directory location that Infoprint Designer needs (PSEG240, PSEG300 and PSEG600).

Other AFP applications such as the AFP Viewer use the following suffixes: Table 2 (Tables should extend to the end of the page)

*Table 2.  Common AFP resource suffixes*

| AFP resource | Suffix |
|---|---|
| Overlay | OLY |
| Page segment | PSG |
| Form definition | FDE |
| Page definition | PDE |

You should be aware of the resolution of the resources you will be using. The following AFP resources are resolution-dependent (i.e. will be either 240, 300 or 600-pel)

- Overlay objects
- Page segments
- Raster font character sets
- Raster coded fonts

Typically they are 300-dpi. All other AFP resources are resolution-independent.

## 1.3  Starting a project

Infoprint Designer uses the concept of a *project*. There are two types of projects, overlay projects and layout projects.

### 1.3.1  Overlay projects

Use overlay projects if you are using Infoprint Designer to create overlays that will be used with other formatting solutions, such as DDS or Advanced Print Utility. You may also use overlay projects to work on overlays that are used in many different layout projects, or just to have a clean slate while the initial design work is being done. The project file, with suffix *.prj, for an overlay project will contain the name of the overlay(s) and a pointer to the default library profile document.

Figure 1 shows an example of the panel you will see when you start a new overlay definition (that is, an overlay project). The default name of the project will be UNTITL (for "untitled"). Do not save it under this name - you should immediately change that to a meaningful name of your own choice. When you change the project name it will also automatically change the name of the overlay file. You may add additional existing overlays to your project when you start it by clicking on the **Append** button.
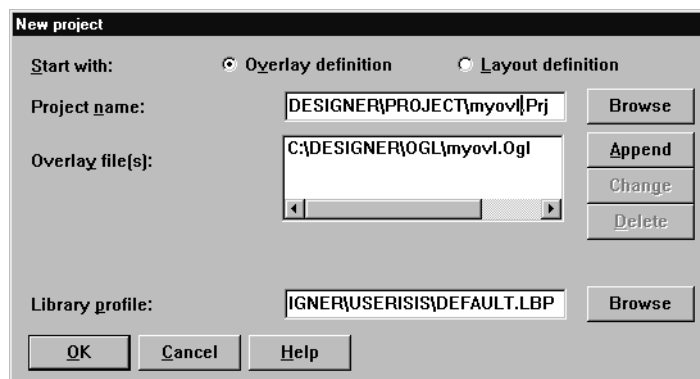


*Figure 1.  Starting an overlay project*

### 1.3.2  Layout project

When you start mapping application data onto your overlay you need to switch to using the Layout Editor. (This is described in 1.7, "Layout Editor" on page 14). Your work here is saved into a layout project. You can also start directly with a layout project. As before, you are not permitted to save the file under the default name of UNTITL, so change the name of the project to a meaningful name of your choice. When you change the name of the project, it will automatically change the name of the layout file. This name will become the name of the AFP page and form definition objects that will be created. (See 1.8, "Introduction to form and page definitions" on page 21).

At this time you may also choose to associate a line data file from either the AS/400 or your PC to your project. This is the sample file of data you work with, and is described in 1.7.1, "Selecting sample data from the iSeries server" on page 15.

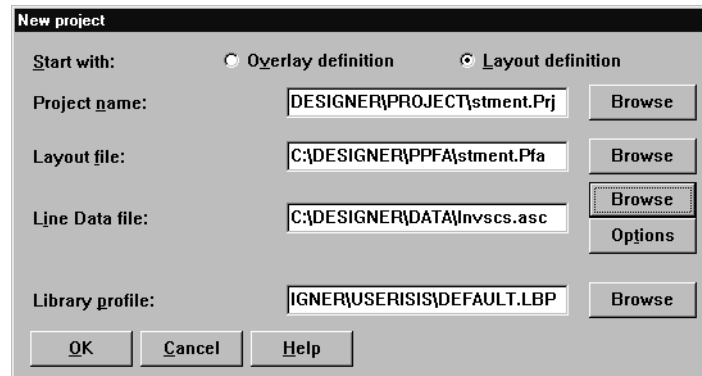Figure 2 on page 7 shows an example of the New Project options for a layout project.



*Figure 2. Starting a layout project*

The project file for a layout project contains references to the sample spooled file used to create the project along with the name of the layout source file.

Typically, an Infoprint Designer project will correspond to your application, for example Invoices, Purchase Orders, Statements and so on. Depending on the design of your application, however, a project might encompass two or more applications. For example you might include the ability to determine whether an invoice is actually a credit note and invoke the appropriate overlay and page layout.

## 1.4 Designing and creating an overlay

By default Infoprint Designer begins with a screen labelled "View/Edit". This is your workspace. The reason for the screen title is that if you are editing your page layout you can also view the overlay "behind" the data - and vice-versa. See Figure 3.
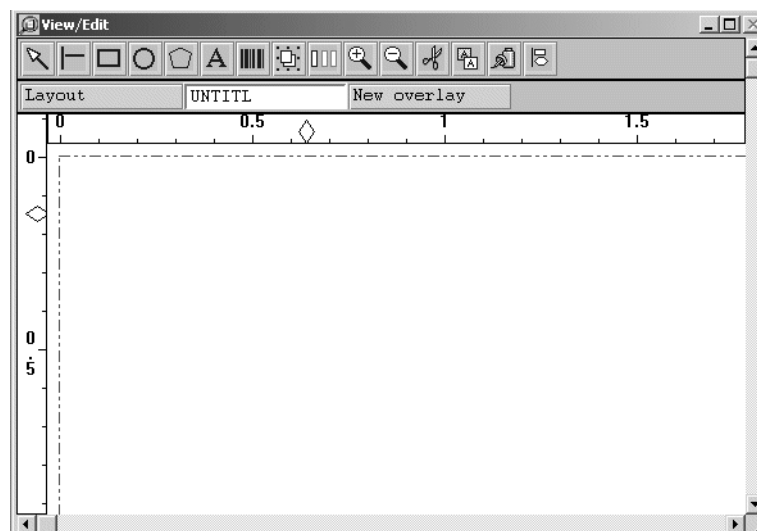


*Figure 3. Initial Infoprint Designer View/Edit screen*

Notice that the selected (middle) tab is called "UNTITL" i.e. an untitled overlay. We also have the opportunity to start work on another overlay - by clicking on the "New overlay" tab, or begin work on the document layout (i.e. mapped data and overlays) by clicking on the "Layout" tab.

### 1.4.1  Saving your work

Infoprint Designer auto-saves your project file by default every 2 minutes. This can be adjusted using **Edit->Preferences->General**. You will also be prompted to save the overlay and layout source separately if you attempt to close or quit the current project. The prompt asks if you will save an "ogl" file. OGL stands for Overlay Generation Language, an IBM mainframe program product used for creating overlays. Note that you *cannot* upload and use the OGL source file independently from Infoprint Designer - the program licence is for use only as an iSeries product. However the actual AFP resource objects you create - overlays, page segments, etc. may be transferred to and used with other AFP systems.

It is necessary only to save the Project file (this saves the layout and overlay definitions), but you may find it useful to save the individual component files separately for use with another project. For example your Statement project file may contain two overlay files (say Stmnt.ogl and Terms.ogl). The Terms and Conditions overlay (Terms.ogl) might be used with another application i.e. another project. You might choose to store it under a different name or in a different location.

The *Save* and *Save As* panels are similar to the panels shown in Figure 1 on page 6 and Figure 2 on page 7.

To save your work, click **File->Save project as...** Then highlight the Overlay line and click **Save as**. Type in a new overlay file name, and navigate to a preferred path if necessary, then click **Save**. If the path and file name are already correct, clicking **Save** will simply update the overlay file with your latest changes to the overlay.

### 1.4.2  File names

Even though Windows and Infoprint Designer permit long file names for project names it may be advisable to save the various files using a 8-character maximum. This is enforced for the save of overlay source files in any case. Layout files will be truncated to 8 characters on upload to the iSeries system (for example NEWSTATEMENTS.PFA will be truncated to NEWSTATE).

If you are producing AFP resources for use with other non-iSeries systems you might restrict filenames to six characters. The reason for this is because on some IBM platforms AFP source code is compiled to produce resources beginning with specific prefixes, namely P1 for a page definition, F1 for a form definition, O1 for an overlay and S1 for a page segment. For example, a layout file NEWSTA would produce page and form definition objects called P1NEWSTA and F1NEWSTA.

Unless you know that you will be using your resources with a product such as PPFA/400 (which does use the prefixed naming conventions), we recommend you do not use the prefixed naming conventions. To do this, access **Edit->Preferences->AS/400** and ensure that the check marks from the four "Prefix" boxes are removed, as shown in Figure 4 on page 9. This is the default

setting - all this means is that your resources will not be prefixed with "O1", "F1" and so on.
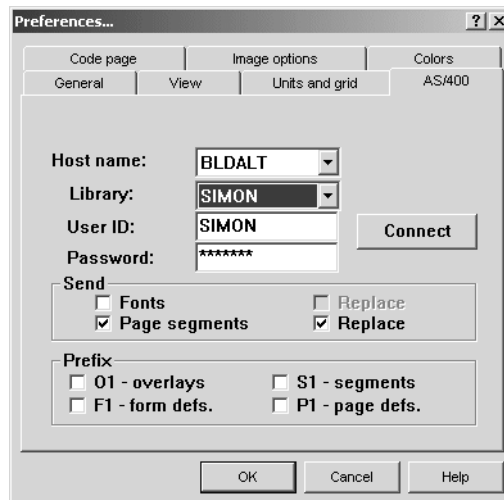


*Figure 4.  Recommended configuration for resource names and send options*

A last point on filenames is that a Project file (*.PRJ) *can* have a long file name, such as "Project to construct new statements application.pfa". This name will be retained in Windows, although only the first 43 characters are displayed in the title bar of the Infoprint Designer window and you lose the *.prj suffix, and the selected host printer resolution (for example 300 ppi). To keep this information on display, restrict your project names to 29 characters in length - or use the same name as that of the Layout and Overlay definitions!

### 1.4.3  Importing existing electronic overlays

If you have existing AFP overlays, you can convert these for use directly with Infoprint Designer. The procedure first depends on which method you use to get the overlay file to your PC.

#### 1.4.3.1  Using file transfer

You need to use the CVTOVLPFM command provided with AFP Utilities/400 (5769-AF1 or 5722-AF1) to convert the overlay object into a physical file member then transfer the file to the PC, using a suitable method such as FTP or Client Access/400 file transfer, in binary in both cases. (You cannot use the original AFP Utilities/400 source file).

#### 1.4.3.2  Using a mapped network drive

With this method, use the OS/400 CL command CPYTOPCD to copy the overlay object to a suitable folder on the iSeries. For example:

```
CPYTOPCD FROMFILE(SIMON/IPD) TOFLR(DESIGNER) FROMMBR(INVOICE)
    TODOC(INVOICE.OLY) REPLACE(*NO) TRNTBL(*NONE)
```

Now create a share to this folder using Windows (**My Computer - Tools - Map Network Drive**, enter a drive letter and the path to the folder, for example \\MYAS400\DESIGNER). You can then copy the overlay object to your PC or access it directly from the network drive.

### 1.4.3.3  Using AFP Manager
AFP Manager is an addition to the Client Access Operations Navigator interface. It is described in it's own chapter elsewhere in this book.

### 1.4.3.4  Using a Java program
An alternative method is shown in the Java program in the Appendix "Extracting AFP Resource contents".

Once you have the AFP overlay file on your PC, select **File->Get overlay** from within Infoprint Designer. The suffix is significant only for filtering the display of available files. See Figure 5. Before allowing you to work with the overlay, Infoprint Designer prompts you to save it as an *.OGL source file. Infoprint Designer will then import the overlay into your current overlay editor screen, where you may work with it as normal.

### 1.4.3.5  Limitations
This method works best with simple overlays of lines and boxes. Text that was originally separate items may now be in a large group of words. This is unavoidable because of the way the text is stored in the AFP overlay. Additionally, although overlays created with font character set and code pages may be imported, these fonts are mapped to coded fonts with code page 500, which may not provide the results you want. In the worst case, you may have to delete and/or recreate just the text blocks if changes are needed. Also note that page segments referenced in the overlay need to be brought down separately.
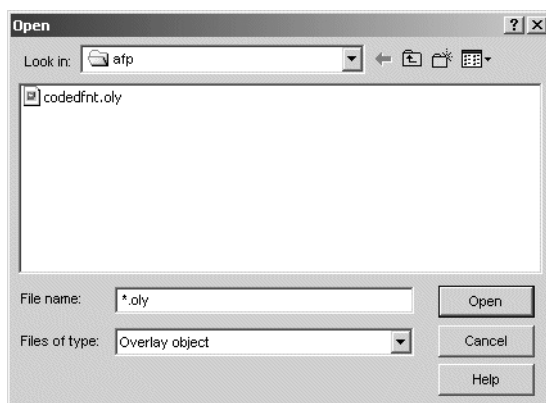


*Figure 5.  Importing an AFP overlay object*

If you previously created an overlay using Infoprint Designer you have the overlay source saved as a *.OGL file (typically in the OGL directory of your Infoprint Designer installation directory). You can also open this for use with a new design: select **File - Get overlay** as before. Figure 6 shows the results of opening an existing overlay called INVOIC.
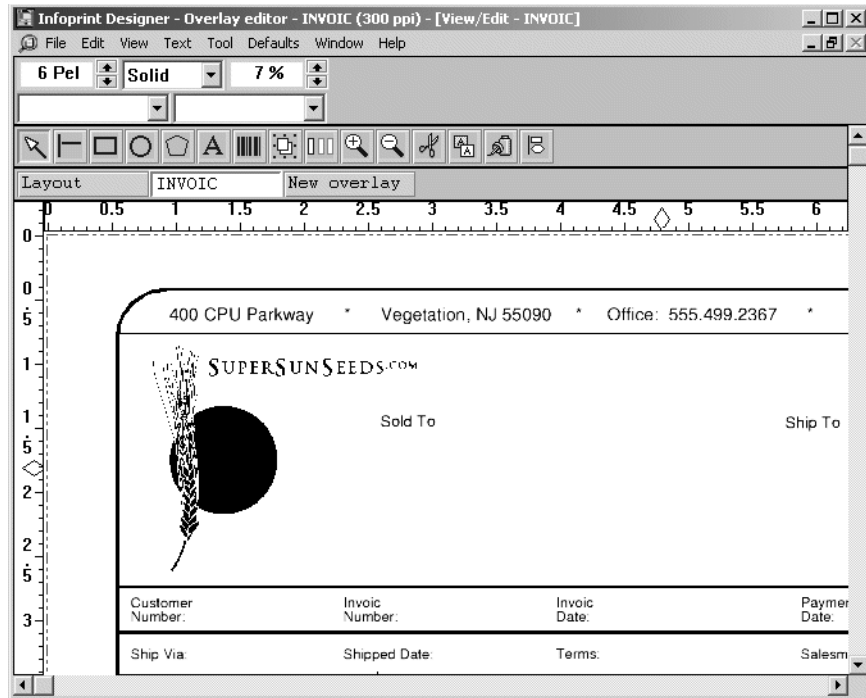
*Figure 6. Opening an existing Infoprint Designer overlay*

You can delete overlay(s) from your current project by using **Edit - Overlay list** to select the appropriate overlay and click on **Delete**. Note that you can also swap out the overlay for another one, by using the **Change** button in the same menu dialog.

### 1.4.4  Converting pre-printed forms

Another approach to the above method is to make a good-quality scan of a printed copy of your existing AFP overlay, or even use an existing pre-printed form. Setup your scanning program with the following options:

- TIFF format
- Bi-level (black and white)
- Resolution to match that of your target printer (probably 300 dpi, but possibly also 240 or 600 dpi)
- Scan the image at actual size (1:1)

Infoprint Designer refers to a scanned image of this type as a *Template*. To import it, use **File - Get template**. Browse for the TIFF image on your PC and select it. The scanned image appears as a non-editable "background" image. You can now trace over the existing elements (boxes, lines or text) to create your new overlay, and also add new elements. The template will not print nor appear with your new overlay. When you have finished using the template you can select **File - Get template** - and click on the **Delete Template** button.

You can also use overlay source files and overlay objects with the **Get template** command. The overlay is presented as a greyed-out image as before. The effect is the same as if you loaded (**Get overlay**) an overlay into the project, but as the template overlay will not be saved with the project, this approach may be easier if

your project contains many overlays and you need another for reference or for tracing.

## 1.5  Miscellaneous hints and tips

Most of these tips also apply to the Image and Layout Editors but you are perhaps more likely to use them while constructing overlays.

### 1.5.1  Using the grid

You can create very accurate overlays with the assistance of the grid feature. Select **Edit->Preferences->Units and Grid**. Then set up the grid to your preferences. Notice that this only covers the grid dimensions and characteristics. Use **View->Grid** to enable the display of the grid (or Ctrl-G) and **View-Snap to Grid** to enable grid snapping. The latter term refers to the automatic alignment of your overlay or page elements to the grid, for example if you draw a box beginning at 0.48" across the page and grid snapping is on with a grid at 0.5" increments, the box will be left-aligned at 0.5". We recommend you keep grid snapping on and only occasionally switch it off for fine adjustment of individual elements.

### 1.5.2  Use the right-hand mouse button

Use the right-hand mouse button (RMB) frequently. For example, with no elements selected, selecting the RMB in the View/Edit window will bring up a dialog box controlling zoom in/out, the ability to fit your view to the page width or height and the Refresh facility. The latter refreshes your display and this is sometimes necessary when you have just drawn a more complex series of elements. How often you need to use Refresh depends on the performance of your PC and its graphics adapter.

If you do have an element selected, use of the RMB will bring up all the parameters that may be edited for that element. **Edit->Object properties** is the equivalent menu bar function. The keyboard shortcut is Ctrl-E.

### 1.5.3  Use the Shift key

Using the Shift key permits multiple elements to be selected. For example, select several text fields in a document. Select Edit - Object Properties. A small box with the options COLOR, TEXT PAR and ALIGN will appear. The chosen change will be applied to all three elements.

### 1.5.4  Use the Ctrl key

Using the Ctrl (Control) key while using the normal mouse key often invokes additional functions. For example, the "tear-off" function: select an element, hold the Ctrl key down and drag a copy of that element elsewhere on the page.

In Layout mode, this latter description is useful for adjusting the line spacing of all fields in a repeated printline: select any but the first field, hold the Ctrl key down and drag the fields to a new line spacing interval.

## 1.6  Using the Image Editor

Most users of Infoprint Designer require image data in their application. Examples of this could be a corporate logo, a signature, or an industry membership sign. Generally these exist somewhere in the company in one of the common PC formats such as BMP, GIF, JPEG or TIFF. If they do not, they may be scanned in and converted to one of these formats.

Like most image-editing tools, Image Editor allows you to touch-up and/or enhance the quality of the scanned or imported image. However the Image Editor goes on to converts these PC file formats to AFP format, allowing you to work natively with the AFP object at the PC graphic design level, using Infoprint Designer Overlay Editor. Specifically, it creates an AFP page segment, which will be uploaded to the AS/400 when the project is saved. At any time the image may be imported into the AFP overlay.

### 1.6.1  Creating separate AFP page segments

Your requirements for an overlay may be fairly simple, for example the company logo plus the address and contact details of its offices. In this case, the company logo will become part of the AFP overlay.

#### 1.6.1.1  Maintenance

If, however, you have multiple identities or brands represented by different logos, it would make sense to keep these logos separate from the overlay. That way if one logo out of the ten company brand logos needs modifying, only one change is required. Similarly if the "Total" box on the company invoice overlay is to be altered, again only one change is required, rather than ten changes.

Signatures are another resource that would likely be kept as separate page segments.

#### 1.6.1.2  Variable logos

As well as ease of maintenance, keeping logos and signatures separate means we can invoke them in response to the data within the application. The simplest case is probably the Invoice / Credit Note example. We can do a simple test on the total due for each customer: if the amount is positive we print an Invoice overlay, if the amount is negative we print a Credit Note overlay instead. Note that this is an "either/or" example - we could further improve the customer service by printing appropriate brand logos, contact details, etc. by examining other fields in the data.

This is a simple introduction to the very powerful and extensive possibilities for complex document formatting. The subject is discussed further in 1.12, "Using conditional processing" on page 31.

### 1.6.2  Using the Image Editor

Image Editor is a relatively straightforward graphical design tool and with features such as on-line context-sensitive help and floating "bubble help" for the icons, the best way to learn it's features is simply to start using it. However there are some important points that should be noted.

### 1.6.2.1 Print resolution of resources

You should set the resolution of the resulting AFP image to match that of your target printer. Typically this will be 300 pel (picture elements per inch, also referred to as 300 dpi, dots per inch). Note that even though your target printer prints at 600 pels, as far as PSF is concerned, the resolution is likely to be either 240 or 300 pels. For example printers such as the IBM Infoprint 20 print usually print at 600 pels but the resources sent to them will be either 240 or 300 pels. Printers such as the IBM Infoprint 70 do have the ability to receive 600 pel resources directly but for portability, 300 pel should be sufficient.

### 1.6.2.2 Print orientation of resources

AFP images are known as page segments; they are individual segments of a logical page, and may contain their own characteristics, different from that of the rest of the page. The most important of these is the orientation of the page segment - if created at zero degrees rotation, it will always print at zero degrees orientation, even if the rest of the document and overlay are rotated. Therefore it is common to produce at least two versions of each page segment, one at 0 degrees, the other at 90 degrees, together with a suitable naming convention such as LOGO and LOGO90.

### 1.6.2.3 Creating page segments

If your image exists in a color form, try to obtain a black and white version before converting it to a page segment. If this is not possible, *dither* the logo first. Select **Image** - **Dither**, then select **Color B/W** or **Greyscale**. The best choice may require some experimentation. Remember to use **Edit** - **Undo** (or Ctrl-Z) if you don't get satisfactory results the first time.

Having converted it, you need to select **File** - **Save as.** Save it as an AFP image (page segment) with a suffix of *.PSG. You will then be prompted for the AFP file parameters. There are many possible combinations, but a typical selection would be as shown in Figure 7.
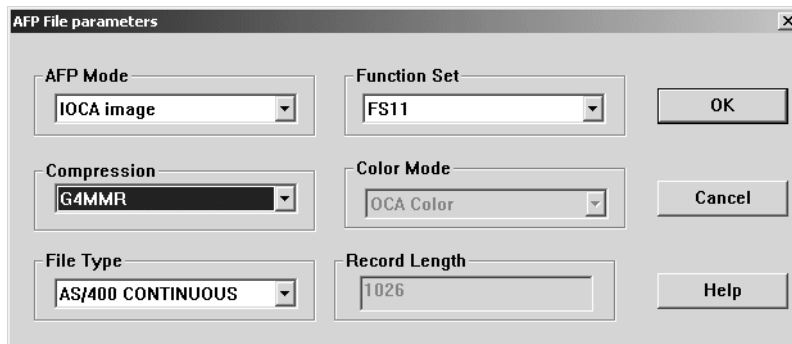


*Figure 7. Typical combination of save parameters for an AFP page segment*

## 1.7  Layout Editor

Layout Editor is the tool within Infoprint Designer that you use to design the complete electronic form, adding your overlays and images to data from your application. Infoprint Designer can work with either unformatted or formatted data. Unformatted data is sometimes known as a "flat file" or *line data*. Formatted data might have some or all of the data placement already determined, for example a customer name and address at top left, an invoice total at bottom right.

In either case we can use Infoprint Designer to redesign the page layout without changing the original application.

### 1.7.1 Selecting sample data from the iSeries server

The first task is to gather sample data from typical page(s) of our selected application. Infoprint Designer is tightly integrated with the iSeries server - which is why the first step in an Infoprint Designer session is to sign on to an iSeries session. As soon as you click the Layout menu button, you are prompted for the source of your data. To begin with, it's likely that this will be the iSeries system. By selecting the AS/400 radio button you are provided with the list of output queues to which you have access on the iSeries server. Then speed up the search if possible by typing an output queue name that contains your test spool file(s). See Figure 8.
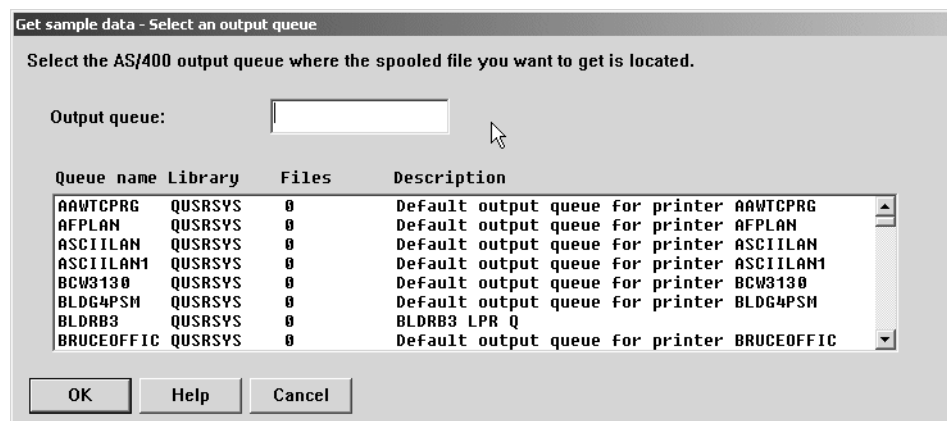


Figure 8. Selection of output queue containing sample data

You could scroll through the list of output queues but assuming you know the name of the queue, enter it and click OK, as in Figure 9.
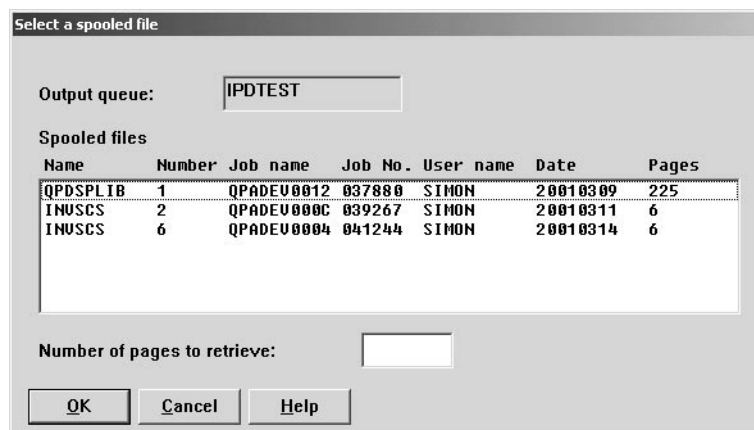


Figure 9. Selection of a sample spooled file

The next dialog you see is the "Select line data file". This is actually prompting you to save the spooled file data locally on your PC. Give it a suitable name and suffix (for example ASC - Ascii) and save the file. Your View/Edit window remains blank, apart perhaps from any overlays you have in the background.

Now click on **Window - Data** and you will see a new window entitled the Data Window. This contains your *unmapped* sample spooled file data, blue in color. Now click on **Window - Tile** to get the Data Window and the View/Edit window displayed together. From here you can drag and drop selected areas of text into the View/Edit window, as described in the *Getting Started* manual. If you already have an overlay open, you will notice it is in the background, as in Figure 10 on page 16.

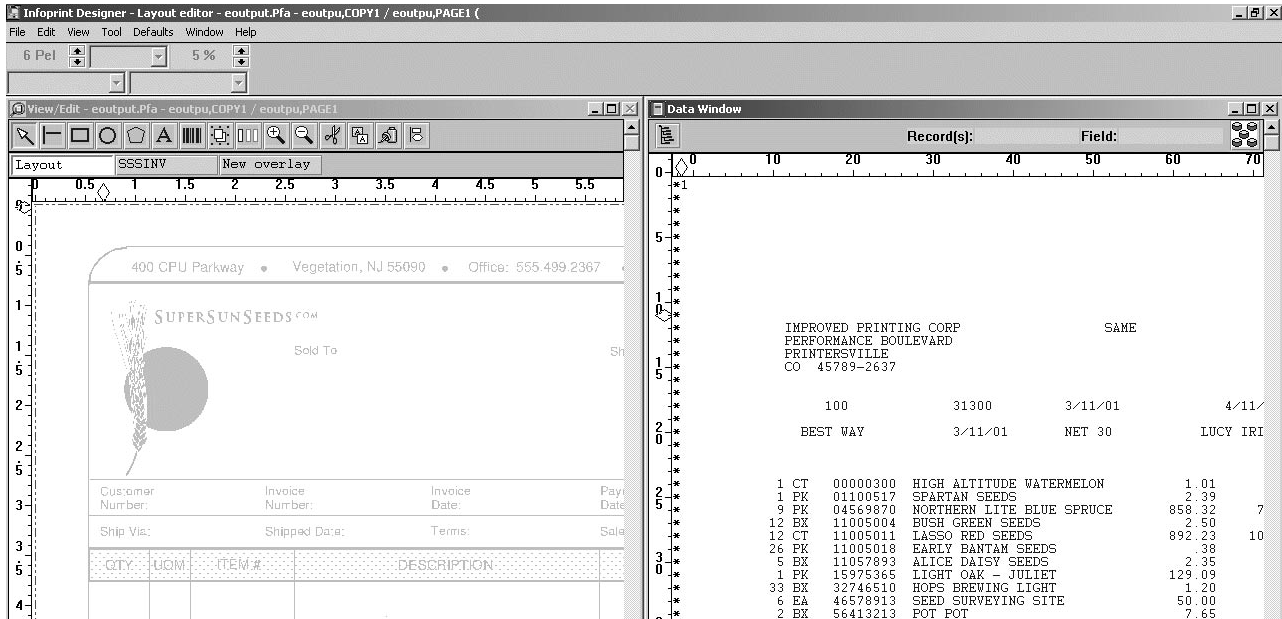When you have the windows arranged to your liking, click on **Windows - Arrangement - Save**.



*Figure 10.  iSeries sample data located, about to start data mapping with Infoprint Designer*

## 1.7.2  Selecting sample data from the PC

When using Infoprint Designer you will always be connected to the iSeries server. However you may later find that the sample spooled file you used for your designs has been deleted from the system, perhaps through regular spooled file housekeeping or simply because it was printed! The answer is to use the local copy stored on your PC, which Infoprint Designer refers to as the "line data file".

To access this file, select **File - Get sample data** and select **From PC**. By default, Infoprint Designer looks in the \DESIGNER\DATA directory. You can select a file of type *.ASC (meaning ASCII data) but you can select any text file you have available. You are then prompted further with Figure 11.
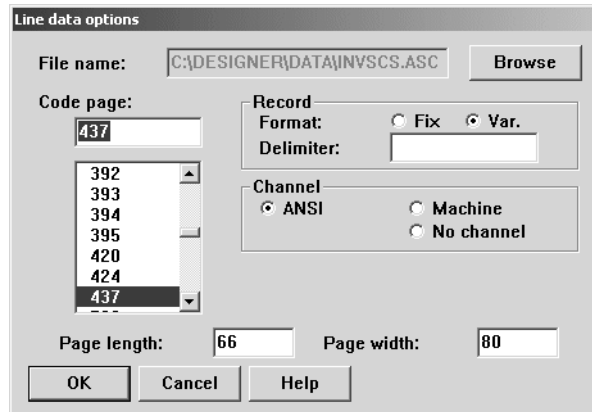
*Figure 11. Line data options when importing a sample spooled file from the PC*

The default values in this screen are taken from the original downloaded spooled file attributes. Therefore you should leave all or most values as they are but the following notes may be of help.

### 1.7.2.1 Code page

The code page should match the code page Windows is using on your PC. Typically this is 437 (MS-DOS Latin 1 US) or 850 (MS-DOS Latin 1Multilingual). If you are not sure which code page your PC is using, type "chcp" at a DOS prompt to display the active code page. Take care when referring to Windows documentation: the terms "code page" and "character set" mean the same thing. This is not the case with the IBM AFP architecture.

### 1.7.2.2 Record format

Use *variable* record format with PC spooled files previously derived from the iSeries (even though the iSeries is a fixed record format system). Also use variable record format with PC spooled files sourced from IBM mainframe systems such as OS/390. If you are extracting data from a spreadsheet file, you might select fixed record with a delimiter such as tabs or commas.

### 1.7.2.3 Channel type

In this context "channel type" refers to line spacing and page skip controls that may or may not be in the PC file. A more usual term is *carriage control*, or in iSeries parlance, First Character Forms Control (FCFC).

With *ANSI* encoding, a line space occurs *before* printing the line. Common ANSI FCFC characters include a space (write, then perform one line space), + (no space), 0 (two spaces), - (three spaces) and a 1 (write after skipping to a new page). The latter case is also known as a "Channel 1".

*Machine* encoding means that the data is printed, then any line or page skip controls are performed, i.e *after* the data line.

"*No channel*" means that no spacing or skip controls are present in the file. If this is the case, you have a true "flat file" of data and the file is unlikely to be a spooled file but perhaps imported from another source such as a spreadsheet or data file.

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ANSI line spacing control is the most common channel type on the iSeries platform and if your spooled file originated on the iSeries, this is the most likely choice for your PC file.

#### 1.7.2.4  Page length and width

Leave these at their default setting (i.e. as inherited from the iSeries spooled file). The page length is especially important as this dictates how many records (lines) will be available for mapping on each page of output.

### 1.7.3  Mapping data to the layout

Once you have successfully loaded the sample data into your project you can start mapping individual fields or groups of fields. You do this by highlighting the area you wish to select from within the Data Window, using the left mouse button, and then dragging it using the right mouse button.

It is a good idea to have the documentation for the application you are working on available. The data you see on the sample page you are looking at may not represent the full length of the fields. For example, in the Invoice example in Infoprint Designer, the original programmer's DDS code (not included) showed that the field NAME is placed at position 12 on the line, and is 25 characters long. You can verify you have the correct position and length of field by watching the information displayed at the top of the Data Window as you are highlighting the area. If you don't have access to this information, you must ensure you test your new print application with as wide a variety of sample data as possible.

When you first bring in the data, the first logical page will be represented in the Data Window in blue. Subsequent pages will be in red. All the field mappings that you perform should be selected from a blue page. If you need to bring up a different page of the data, use the **Next** button (just below the menu items) to page through the available data.

Once you have the field placed on the View/Edit window, you can make some further modifications to it. Right click on the field to see the **Field Properties** window. From the General tab, you can verify the positions from the original input record, and field length against your application documentation. Click on any of the other tabs to change the characteristics of the field, such as font or orientation. Figure 12 shows an example of mapping a field and modifying its properties. Note the entries at the top bar of the data window showing that we have selected Record 12, Field 12-36.
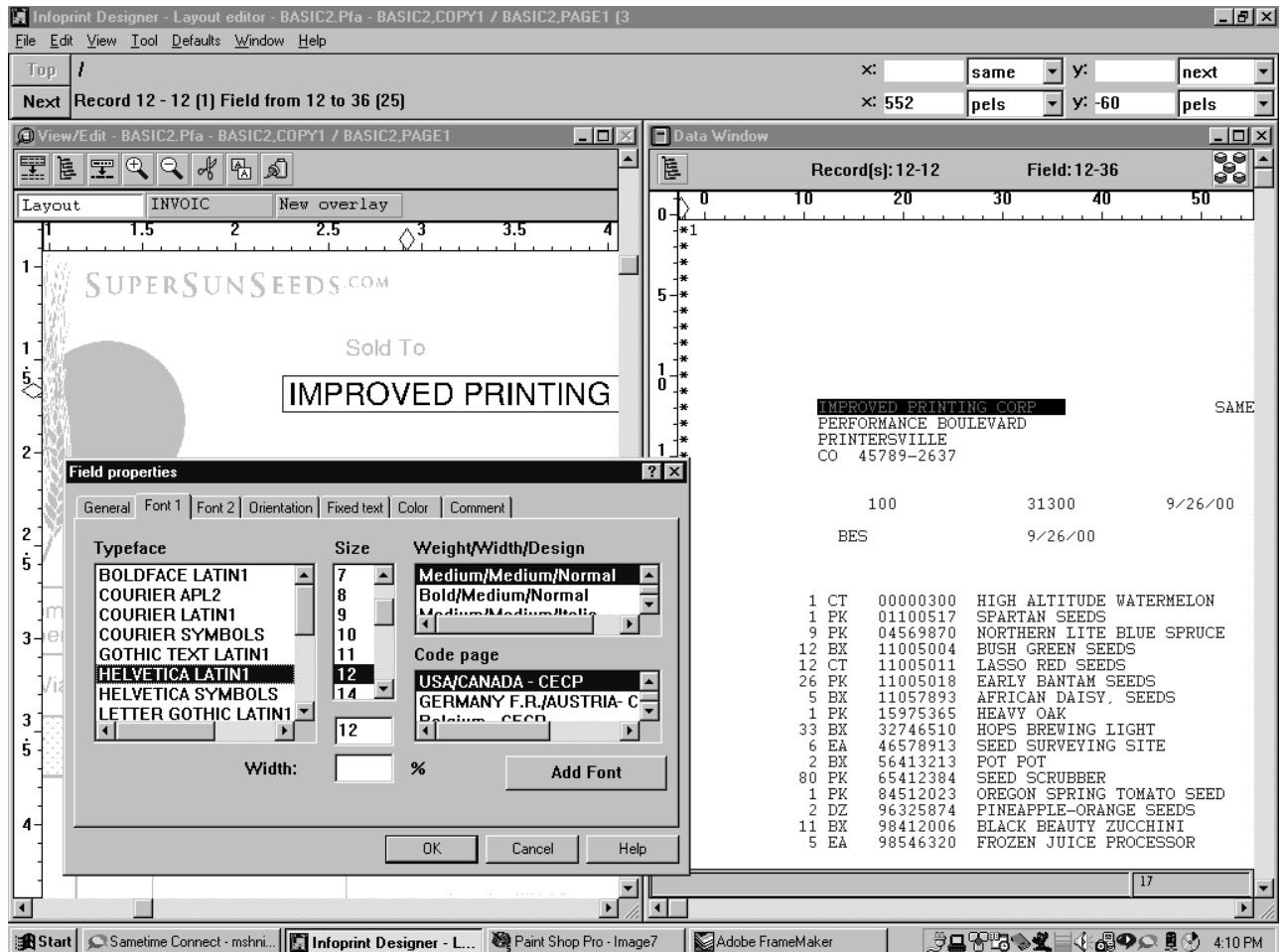
Figure 12.  Mapping and modifying a field

If a column of fields is to have similar characteristics you can select the entire area and them map them in one step. Figure 13 shows the results of highlighting and mapping a column. The fields will remain logically grouped together in your design, so you can move them or change other characteristics en mass.

*Figure 13. Mapping a column of fields*

If you want to make group changes, left click on just the first element of the group, and then either drag it to a new position or right click to change other characteristics. If you wish to change the interline spacing of a group of fields, click on any field in the group, other than the first, and drag it up or down until the column is arranged to your liking.

You may notice that the information bar at the top of the screen shows slightly different information, depending on which field you select. If you select the top field you see the absolute position at which it is mapped. If you select other fields, you see the relative mapping.

If you have multiple columns of data in a section, you can adjust the line spacing of all the columns at one time. Click on one of the fields in one of the columns and hold the **Ctrl** key while you adjust the line spacing. All the other columns that use the same range of lines will be adjusted accordingly. This action will synchronize the interline spacing. You have to manually ensure that the first entries in the group are aligned.

> **Note**
>
> It is possible to ungroup a set of fields, using the Ungroup Printline icon from the toolbar. Use this with caution. Once you have done so you cannot easily regroup the fields.

Continue mapping all the required fields from the Data Window to the View/Edit window. You may find it easier to do the mapping on a gross level first, just dragging and dropping the required fields over to their approximate destination View/Edit window. Then close down the Data Window and enlarge the View/Edit window to fine tune the positions and make other changes to the field properties.

As a final test, you may want to open both the View/Edit and the Data Window and page through all the available data pages to make sure you have captured everything you need.

## 1.8  Introduction to form and page definitions

Underneath the covers, Infoprint Designer builds two very important AFP resource objects called a *form definition* and a *page definition*.

A form definition is concerned with physical entities such as simplex/duplex, print quality, paper source drawer, and also the position of the logical page on the physical piece of paper. A page definition defines the appearance of the logical page of data, for example the position of the text, the fonts, any overlays, the page orientation and so on.

Note that these two formatting controls are *application-independent*. With the addition of the easy-to-use Infoprint Designer GUI, document presentation changes need no longer involve the iSeries application programmer.

For basic use of Infoprint Designer it is unnecessary to take note of the above information. However for more advanced use it is very useful to have an understanding of how page and form definitions interact to build the final electronic document. We look at several areas which make closer reference to the concept.

### 1.8.1  Form definition components

A form definition specifies how the printer controls the processing of the physical sheets of paper. Within a form definition you specify functions such as duplex, overlays, copies, suppression, jogging (offset stacking), paper source, constant pages, multi-up, finishing.

The form definition has two important subdivisions: copy group(s) and subgroup(s).

#### 1.8.1.1  Copy group
A *copy group* defines the current physical page within a form definition. Note that it defines the physical page and could therefore include the formatting instructions for two sides of a piece of paper. A form definition might contain only one copy group. If a different copy group is invoked, it follows that printing must start on a new physical page. An alias for copy group is *medium map*.

Common purposes for a copy group include the ability to pick from a different drawer on the printer. Another example is a switch between simplex and duplex. A final example is the printing of an overlay of standard terms and conditions on the reverse side of client copies of a purchase order. Switching between copy groups in the form definition is controlled by conditional processing in the page definition.

### 1.8.1.2  Subgroup

A subgroup is a subset of a copy group. Up to 127 subgroups can be constructed within any one copy group. The easiest way to remember the function of the subgroup is to think of multipart stationery (top copy, pink copy, blue copy, etc.), as commonly used on impact printers. To replicate this electronically we can use multiple subgroups to repeat each printed page as required. The difference is that each copy may be altered subtly if required.

For a duplexed sheet of paper, there will be a subgroup for *each* side.

### 1.8.1.3  Form definition logic tree

Infoprint Designer uses a logic tree structure to represent the form definition being used in the layout. To display or work on the form definition tree select Layout mode from the View/Edit window, and then select **Window - Form definition** from the main menu. From the form definitions window you can easily add copy groups, subgroups, or overlays to your design, or change their properties. Figure 14 shows an example of a very basic layout.
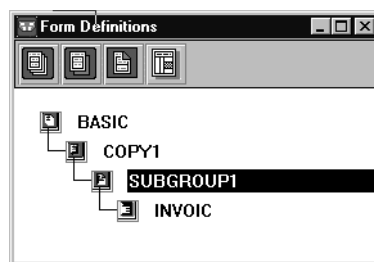


*Figure 14.  Basic form definition tree*

In this example, we have a form definition named **BASIC.** Within it we have one copy group, **COPY1.** Having only the one copy group means that all pages of data will print using the same media. Within the copy group we have one subgroup, **SUBGROUP1.** With only one subgroup defined, the resulting output will only generate one copy of each page. The selection of the overlay(s) to be printed on every page is defined within the subgroup, in this case we are using **INVOIC**, the Super Sun Seeds Invoice.

## 1.8.2  Page definition components

The page definition specifies how you want data positioned on the logical page. The primary purpose is to map each line of input data to a position on the formatted page. You may change the fonts of a field, rotation, interline spacing, turn it into a bar code, or indicate that you want to suppress printing. Page segments and overlays may be defined within a page definition. There are controls in the page definition to control multiple-up printing. Finally, the conditional processing logic to switch between different page formats and/or copy groups is defined in the page definition.

The page definition must contain at least one *page format*.

### 1.8.2.1  Page format

Another name for the page format is a *data map*. This is a less common term but the name may help you to remember that the data map or page format **maps data** onto a page. Different page formats will result in different page layouts. For example, you may wish to lay out the data of a detail page of a report differently from the cover page or the final summary.

Typically, different page formats are selected by "trigger fields" in the application data. The trigger fields could be anything you like, as long as they are in a predictable position in the original application data. Testing of these fields is done in the page definition itself. Switching between different page formats is another example of conditional processing.

### 1.8.2.2  Subpage

All page formats generated with Infoprint Designer contain at least one subpage. It is within the subpage that the actual data mapping takes place. Multiple subpages within a single page format allow you to place multiple logical pages on one physical page.

Subpages are also used in controlling the timing of when a switch takes place in conditional processing. This may be seen in the condition definition window (see Figure 26, "When condition" on page 33 and Figure 27, "Otherwise condition" on page 34). See also Section 1.12.3, "Advanced conditional processing" on page 35.

### 1.8.2.3  Printline

Printline is the instruction within a subpage that is essentially used to define what to do with each line of data in the input file. It is possible to group similar information, such as the detail lines in the body of a report, using the repeat function. An entire line may be formatted using printline, or it may be split into individual fields. Page segments or overlays may be associated with a printline. Conditional processing instructions are associated with specific printlines. Printlines may be selected based on a **channel code** which may be in position 1 of the data. The most common instance of channel code is a "1" being used to indicate a new page. Subsequent printline commands are processed in sequence. For more information on channel codes see Section 1.7.2.3, "Channel type" on page 17.

### 1.8.2.4  Fields

Individual strings from the input data may be formatted independently of the rest of the line. For each field you can define its font, location, suppression, orientation, or whether to print it as a bar code.

### 1.8.2.5  Page definition tree

Infoprint Designer uses a tree structure to illustrate the page definition being used in your layout. An example of a basic layout is shown in Figure 15.
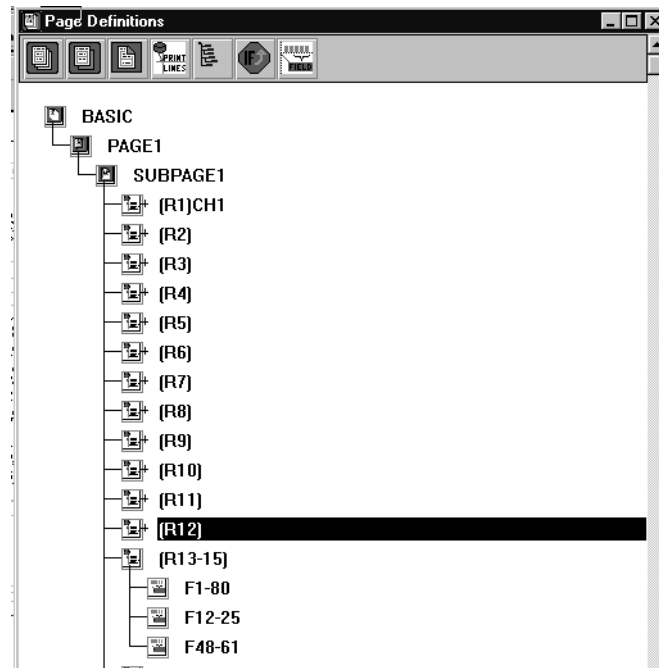
*Figure 15. Basic page definition*

In this example, we have a page definition named **BASIC.** Within it we have one page format, **PAGE1**. Having only the one page format means that all pages of the input file will be mapped the same way, using the same fonts, etc. There is one subpage, **SUBPAGE1**, which means that we will be printing one logical page per physical page.

The first printline instruction, **[R1]** is triggered when channel 1 is encountered in the data, as indicated by **CH1.** The next eleven data records are processed individually in sequence. (The field mappings have been collapsed, as indicated by the "+".) Records 13-15 are all to be handled using the same rules, as indicated by **[R13-15]**. In this case a field consisting of characters 1-80, **[F1-80]** was mapped by default by Infoprint Designer to be suppressed. Then, as part of the act of creating the design, a field, **[F12-25]** consisting of characters 12-25 were placed on the page in a specific location with a specific font, as were characters 48-61, **[F48-61]**.

### 1.8.3  Infoprint Designer and suppression

When you start a new Infoprint Designer session a default layout is created, even before you do any field mapping. The form definition that is created contains one copy group which in turn contains one subgroup. It you started the project with an overlay definition it will have the default overlay mapped into the subgroup. The subgroup will have suppression set with the name **DFLT** as shown in Figure 16, "Subgroup with DFLT suppression" on page 25. This means that any fields defined in the page definition with the Suppression subcommand set to **DFLT** will not print.
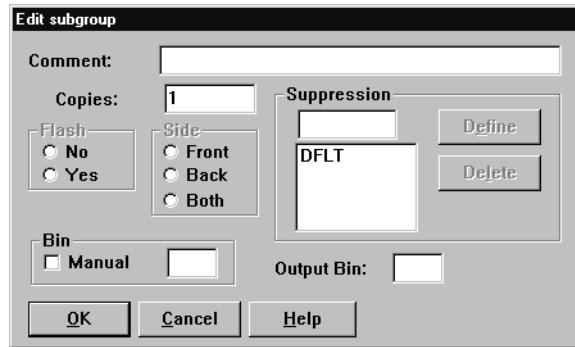
*Figure 16.  Subgroup with DFLT suppression*

To see the details of the subgroup, or any other item in a form definition or page definition logic tree click on the item with your right mouse button.

The page definition will have one page map, and one subpage. As soon as you bring in the sample data, Infoprint Designer will create one printline for each line in the sample data page. Each printline will have one field defined corresponding to the length of the data. Each field will have suppression set to **DFLT**, as shown in Figure 17. To see the suppression settings on a field, first right click on that field in the page definition logic tree, and then left click on the **Suppress** button.



*Figure 17.  Field with DFLT suppression*

Essentially, Infoprint Designer has created a layout that maps the entire page, but suppresses it all at the same time. If you are only doing single page mapping this may not concern you, but if you are using some of the more advanced techniques such as conditional processing, copy groups, or subgroubs you will need to understand what is happening.

First some background. The basic layout technique of page definition is to describe how each line is to be handled in sequence. For example, do something with line one, do something else with line 2 and repeat it 5 times, and then do something yet again with line 7. If you didn't want to do anything with line 8 of the input file, you have to explicitly inhibit it, usually using suppression. If you do not, the next instruction that you intended for line 9, is used against line 8.

When you use Infoprint Designer to map fields, you only need to drag and map the fields you want to use. So if you want to print the address that starts on line 12 of the input data, you only need to drag that line across. Infoprint Designer has already taken care of lines 1 through 11 by suppressing them for you.

If you create a new subgroup, make sure you specify the **DFLT** suppression on it. Otherwise, you will end up with two mappings of your data field: the ones that you intended, plus the ones that are supposed to be suppressed. Figure 18 shows an example of what you may see if you forget to do that.
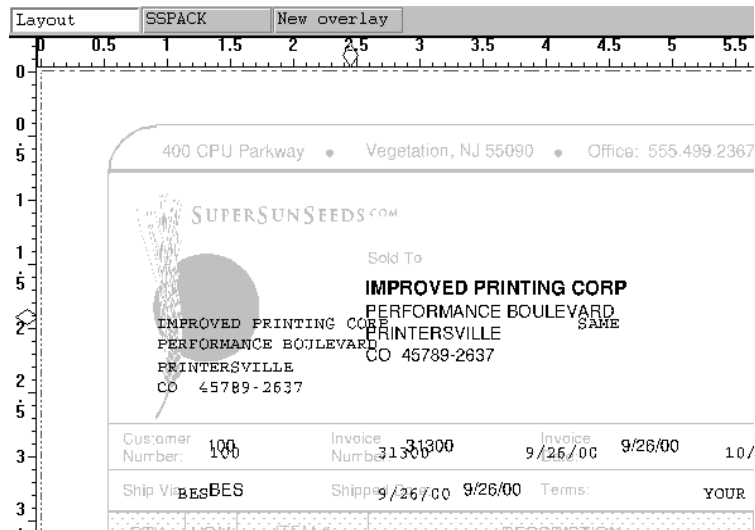


*Figure 18.  Example of double mapping*

A way of perhaps avoiding this is to take copies of a subgroup, rather than create a new one. The fast way to do this is by displaying the form definition window (**Window - Form definition**), then selecting the subgroup, hold the Ctrl key down and drag the subgroup to just below its original position. Release the mouse button and a second subgroup is created. This method is used frequently in the following examples.

## 1.9  Introduction to advanced examples

In the following few sections we will be describing step by step instructions on using advanced form and page definition features to enhance your applications. See:

- Section 1.10, "Using subgroups" on page 26
- Section 1.11, "Adding a constant back to a subgroup" on page 30
- Section 1.12, "Using conditional processing" on page 31
- Section 1.13, "Constant text in the layout" on page 36
- Section 1.14, "Creating a landscape project" on page 37
- Section 1.15, "Multi-up bar code labels" on page 46

Sample projects have been included with your copy of Infoprint Designer for iSeries. These examples are based on some of those samples. You may wish to copy the samples and try making the same changes as described below. For a complete list of the available samples and the features they demonstrate see the Appendix "Infoprint Designer for iSeries projects".

## 1.10  Using subgroups

When migrating an application from multipart impact printing to laser, one of the first things you may want to do is use Infoprint Designer to create multiple copies

of the pages in your spooled file. This is easily done by defining multiple subgroups within one copy group. The copies do not have to be exactly the same. Each subgroup could have different overlays associated with it. Paper may be selected from different bins, allowing you to select different-colored paper for example. Finally, you may have a different set of suppressions set up within the different subgroups. For example, it is common practice not to print the prices on a packing slip. Alternatively there may be information on the internal copy (such as accounting information) that you would rather not have printed on the client copy.

---
**Note**

When designing multiple copies of a page using subgroups, be aware that the data mapping of each copy will be the same. The only difference is that it is possible to *suppress* different combinations of fields on the different copies.

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### 1.10.1  Packing slip example

This example assumes that the design and mapping for an invoice page has already been completed. This corresponds to the sample project *basic.prj*. Now we wish to modify the design to add a second copy of page using a different overlay, different paper source, and suppression on the price fields. The sample project *twocpy.prj* reflects these changes. The steps you need to take to accomplish this are as follows:

1. Open up the original invoice project on which you wish to base the new project.

2. It is probably a good idea to immediately do a **File -> Save project as** so that your new work will not affect the original project. On the **Save project as** dialog, change the name of the project file and the layout file. Click OK. The form definition and page definition will take on the new name.

3. Open up the Form Definitions window. You will see the existing logic tree with one copy group, one subgroup and the invoice overlay. We want to add a second subgroup to this definition. The first thing to do is to copy the original subgroup. While holding the **Ctrl** key, left click on the icon for the subgroup. A slightly larger icon will appear with a red cross through it. Holding down the mouse button move the new icon down so it is just below the original icon. The red cross should disappear. Release the mouse button. Infoprint Designer will have created a new subgroup on the logic tree, exactly the same as the original one, and just below it.

   If you wanted a brand new subgroup that wasn't to be a copy of the existing one you could drag down the Subgroup icon from the toolbar. Remember to add the **DFLT** suppression any time you create a new subgroup.

4. We can now modify the new subgroup. If you copied the original subgroup, the new one will have the Invoice overlay associated with it. Click on the icon for the invoice overlay within the new subgroup and press the **Delete** key. Now we want to add in the packing slip overlay. (Assuming that you have created it earlier). Click on the overlay icon on the tool bar, and drag it down to the new subgroup.

5. You will now be presented with an **Open** dialog box. Select the desired overlay (**PACK** in this case).

6. Now we want to change some of the other characteristics of the new subgroup. Right click on the icon for the subgroup. The **Edit subgroup** dialog will be displayed, as shown in Figure 19. We want to create a suppression tag so that the price fields do not print. Put the cursor in the small box under the Suppression heading and type the name of the tag which will be used on the price fields. In this example we will use **PACK.** Click on the **Define** button and the tag will be moved to the larger box below. The **DFLT** suppression should be listed there already. If not, add it in.

   Now we can add a meaningful comment, and change the paper source to **Bin 2.** Press **OK** when the changes are complete.
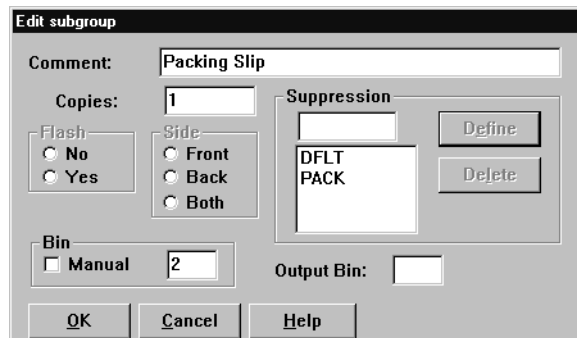


*Figure 19.  Edit subgroup*

7. We now need to modify the price fields in the page definition so that the **PACK** suppression prevents them from printing on the packing slip. Activate the **View/Edit** window. Select the first field in the price column and right click on it to bring up the Field properties dialog, as shown in Figure 20.
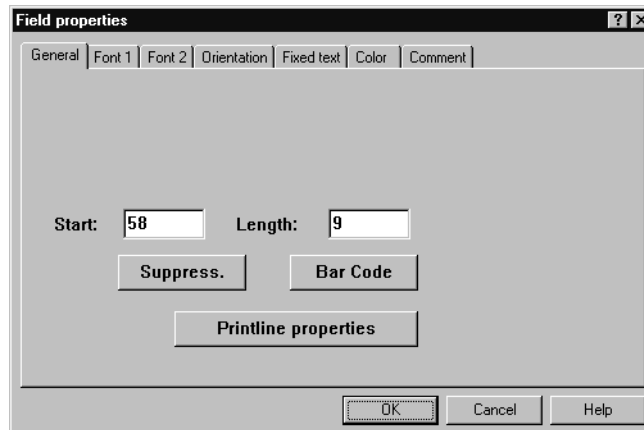


*Figure 20.  Field properties*

   Click on the **Suppress** button to display the Field Suppression dialog as shown in Figure 21 on page 29. You will see a list of suppression tags that have been defined in your subgroup. Click on **PACK** to activate it for this column of fields.

*Figure 21. Field suppression*

Repeat this process for any other columns or individual fields you wish to suppress.

8. Before you complete your project, it is a good idea to check that you have set up the suppression correctly. Open up both the View/Edit window, and the Form definition window. Activate the new Packing Slip copy group by clicking on it on the Form definition window. Then click on a blank part of the View/Edit window. The data will be reloaded, and you should see the packing slip overlay with the description fields, but not the prices. Your screen should look something like Figure 22.
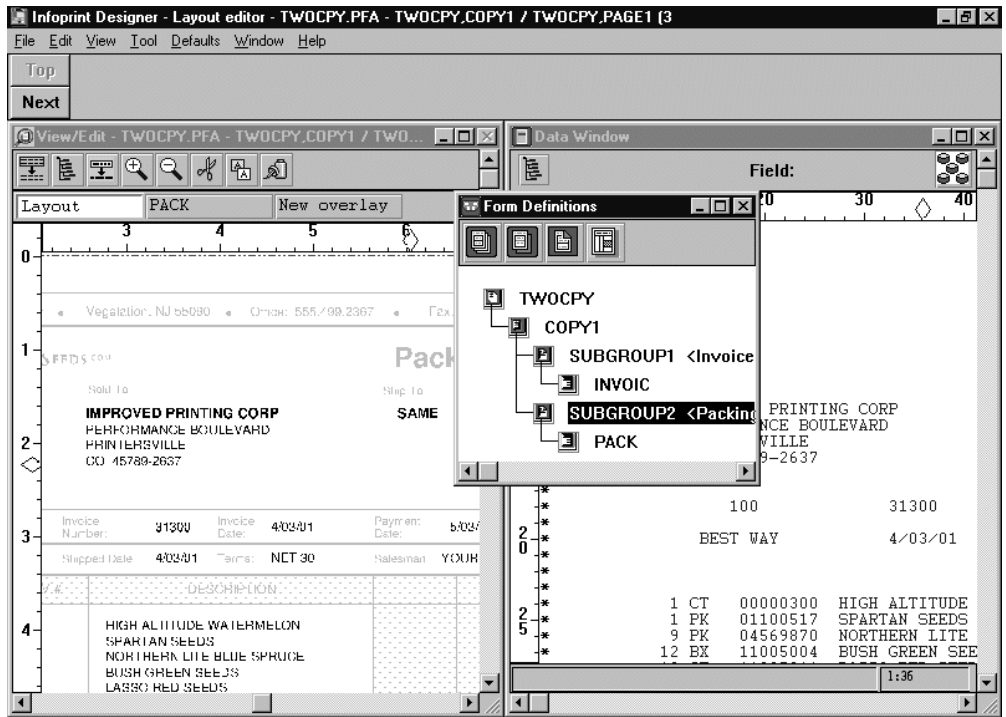


*Figure 22. Verifying subgroup*

9. Once you are satisfied that your design is complete, save your work and upload it to the iSeries. Remember, that in order for bin selection to be controlled by the new form definition, you must specify DRAWER(*FORMDF) on the printer file. This is covered in 1.16.4, "Duplex and drawer selection" on page 53.

## 1.11  Adding a constant back to a subgroup

It is common practice to print a "Terms and Conditions" page on the back of a document such as a company invoice or statement. With subgroup processing we can do this using a function called Constant Back. This is a useful feature of form definition processing; without this, the application would need to track what pages were to be printed in simplex and what pages in duplex, and insert a blank page at the appropriate points.

We need to set up the copy group for duplex printing and tell it we want to use a constant back. Then we define a pair of subgroups for each copy of our document, one for the front and one for the back, each with the appropriate overlay defined.

### 1.11.1  Example of constant back

Following the previous example, from 1.10.1, "Packing slip example" on page 27, assume we already have a project created that prints two copies of every page, an Invoice and a Packing slip. The sample project *twocpy.prj* has these characteristics. The copies are slightly different, as they draw from different bins, use different overlays and suppression of prices is in place on the packing slip. Assume we wish to add a Terms and Conditions overlay, **TERMS**, to the Invoice copy only. This overlay already exists. We will leave the back of the packing slip blank. The sample project *back2.prj* reflects these changes.

1. We will start by making the necessary modifications to the copy group, **COPY1.** Activate the form definition window, and right click on the copy group. Click on the **Duplex** tab. You will see a window similar to Figure 23.
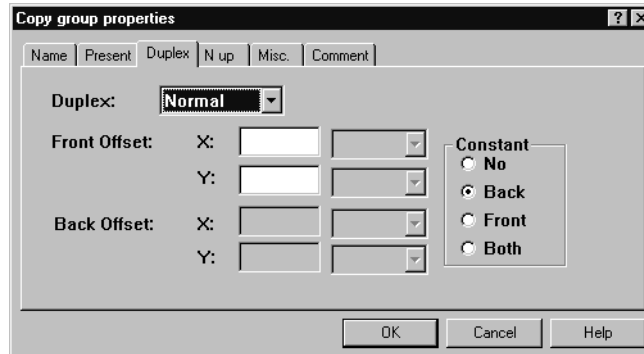


*Figure 23.  Constant back settings in copy group*

Click on the **Duplex** drop down window and change it to **Normal.** Then click on the **Back** radio button in the **Constant** box. Press **OK.**

2. Now we need to set up the subgroups. Start by dragging the subgroup icon from the tool bar to just below the original invoice subgroup. Repeat and place a new subgroup below the packing slip.

3. You should have four subgroups now. Right click on the Invoice subgroup. For the **Side** option select the **Front** radio button. The window should look like Figure 24 on page 31. Click on **OK**.
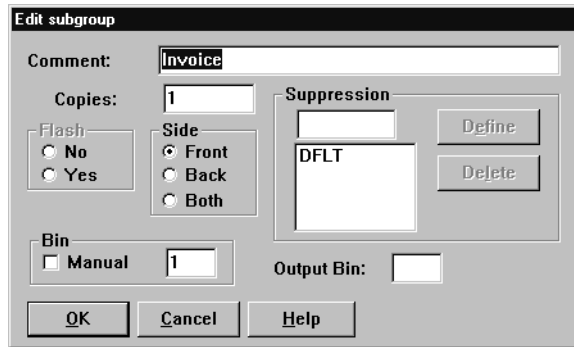
*Figure 24. Subgroup specifying front side only*

4. Repeat this step for the packing slip subgroup, making it active for the front side only as well.

5. Now right click on each of the two new subgroups, and make them active on the Back side only. Add descriptive comments.

6. Finally, add the **TERMS** overlay to the subgroup that is on the back of the invoice. To do this drag the Overlay icon from the toolbar to the terms and conditions subgroup. Select the **TERMS** overlay from the **Open** dialog box.

7. When you are done making all these modifications, your Form Definition window should look something like Figure 25. Note the value of comments and a good naming convention.
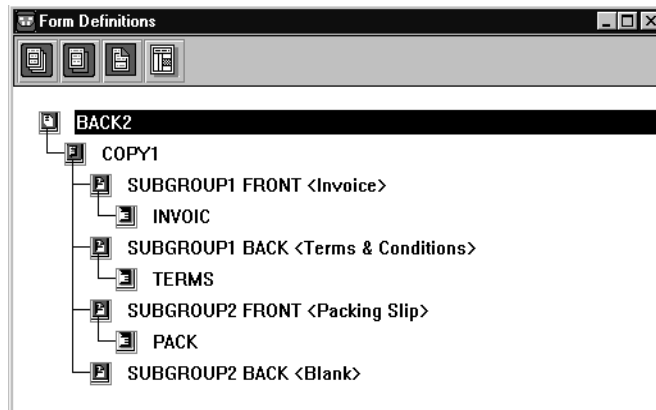


*Figure 25. Form definition with constant back*

8. Save your completed work and upload it to the iSeries. Remember, that in order for bin and duplex selection to be controlled by the new form definition, you must specify DRAWER(*FORMDF) and DUPLEX(*FORMDF) on the printer file (covered in 1.16.4, "Duplex and drawer selection" on page 53).

## 1.12  Using conditional processing

It is by using conditional processing that electronic documents start to change from being direct replacements for pre-printed forms to highly-variable, customized print applications that react to the data within them. Individual pages within the document may be automatically tailored to specific functions (invoice or

credit note?) or individual customers (valued or delinquent?) or specific pages within a set, such as the final page of an invoice versus the other pages.

### 1.12.1  Concepts of conditional processing

Conditional processing may be defined as "use of print data to control the appearance of the final print output". In the page definition you define a field and a comparison test to do on it. You can compare the field against a constant, or check to see if it changed from the previous instance. Based on the results of the test you can tell Infoprint Designer to use a different copy group, and/or a different page format.

Conditional processing may also be used to force a new piece of paper in a duplex environment, or force a new side in a multi-up job.

It is also possible to control *when* the change is to take place. Should Infoprint Designer finish the line or subpage it is on before making the change, or restart the line or subpage with the new layout?

In the example in 1.12.2, "Example of simple conditional processing" on page 32 we will use a fairly simple example of conditional processing. For a detailed explanation of how to use all of the features of conditional processing please refer to *IBM Page Printer Formatting Aid: User's Guide,* S544-5284.

### 1.12.2  Example of simple conditional processing

We will look at the Super Sun Seeds invoice as an example of conditional processing. On the last page of each invoice a "Thank You" message is printed at the end of the item list. We wish to bring more attention to that message by changing the font and moving it down the page to the blank space at the bottom.

We can identify the last page because the content of the "Total due" box is different. On the last page it contains the amount that is due. On earlier pages of a multi-page invoice, the word "Continued" prints in that box. We will take advantage of this to set up our conditional processing trigger.

Assume that we already have a working design for the invoice, using one page format. The sample project *twocpy.prj* was the starting point for this example. The results are reflected in the project called *cond.prj*. Here are the steps to create the new version of the document using conditional processing:

1. Make a copy of the original project and save it under a different name.

2. It will probably be easiest to work on this project if you have both the **View/Edit** window and the **Page definition** window open. In the page definition window, you should see one page format with one subpage. It might be easier at this step if you collapse the subpage tree if it is expanded. You can do this by double clicking on the icon.

3. The first thing you need for this application is two different page formats. Hold the **Ctrl** key down, and using the right mouse button click on the existing page format and drag it down until you can place a new copy below it in the logic tree. You should now have two identical page formats in your logic tree. Right click on the first and change its name to **TOTAL**. Change the name of the other one to **CONTD** for Continued.

4. Assume we do not want to make any changes at this time to the continuation pages. Left click on the **TOTAL** page format to activate it, and then left click on the **View/Edit** window to refresh the data. You can verify that you have the correct page format (or copy group) selected at any time as they are displayed in the title bar of the V**iew/Edit** window.

5. Make the necessary changes to the field mappings. In the original page definition you may have had all the description fields in the detailed lines mapped as one repeating group, of 25 lines. In the new page format we will only have 16 detail lines. An easy way to change this is to right click on the first field in the description column to bring up the field properties. Then click on the Printline properties box. Change the repeat value to 16, and click on **OK** twice.

6. Now, you are ready to remap the "Thank you message". If it isn't already displayed, open up the **Data Window**. If the page being displayed does not have the message, use the **Next** button in the control bar until a page that does have it is displayed. Now you can highlight the message information, drag it to the View/Edit window, and format it as you wish.

7. The next step is to add the condition to the page definition. Let us add it first to the **TOTAL** page format. Left click on the **TOTAL** page format to make sure it is active, and then left click on the **View/Edit** window to refresh the data.

8. In the **View/Edit** window left click on the field in the Amount Due box. A thin blue box will appear around the field. Then click on the **Condition** icon on the tool bar. The conditional processing dialog will appear. It is a good idea to give the condition a meaningful name so it will be easy to reference from other parts of your page definition. We will call it **TOTALBOX.**

9. If the total amount prints in the box, it can start in position 68 if the highest amount possible prints. However, if the word "Continued" prints, it starts in position 70. We need to change the **Start of the comparison field:** entry to match this. The length to check will be 9.

10. Now we will insert the first part of the condition. Click on the **Insert** button to display the **Condition definition** dialog. The completed dialog will look like Figure 26.



*Figure 26. When condition*

To get to this point, make sure the **When** radio button is selected, on the left. In the When box, to the right, select the **EQ** radio button. This brings up a

small window in which we can enter the word **Continued.** In the **Then** box select the radio button to **Change Layout.** We will not be changing the **Copy Group**, so that can be left with **Curr.** (current) selected. Finally, under **Page Format** click on the **Name** radio button and enter the name of the page format, **CONTD.** Press **OK** when all selections are complete to go back to the **Conditional processing** dialog.

What we have just done is told Infoprint Designer that when the field in print line 51, starting in position 70, for a length of 9, equals the string "Continued", change the layout so that it uses the page format called CONTD.

11. Click on the **Insert** button again. In this example, there are only two choices.(a "Continued" page or a "Total" page). Once the first choice is defined, we can use the **Otherwise** function. Click on the **Otherwise** radio button, and then make the selections so that the **TOTAL** page format will be used. Your display should look like Figure 27.
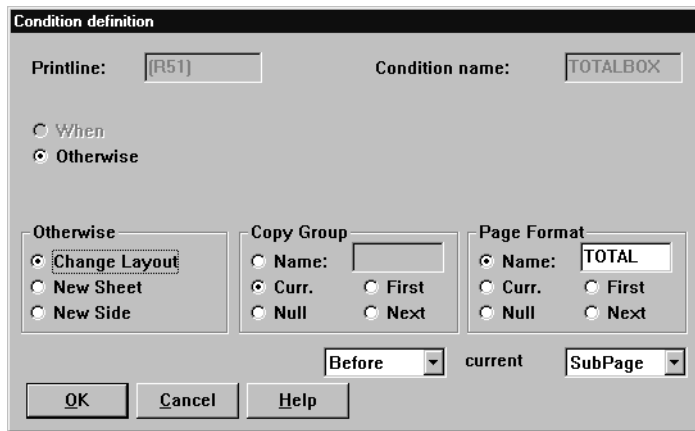


*Figure 27. Otherwise condition*

When your selections are complete, click **OK**. The **Conditional Processing** dialog should now look something like Figure 28.
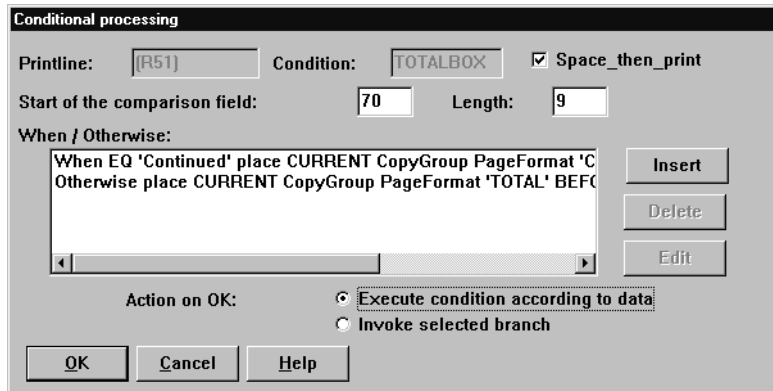


*Figure 28. Completed condition*

12. Make a note of the **Printline** value. In this case it is **R[51].** You will need to know that in order to set up a similar condition in the **CONTD** page format. (If you don't set up a similar condition in the CONTD page format, once you hit the condition that takes you from the TOTAL format into the CONTD format,

you will have no way of knowing when it is time to leave the CONTD format and go back to a TOTAL page). Press **OK.**

13. Go to the **Page definition** window, and activate the CONTD page format.

14. Rather than redoing the logic for the condition, we can use the existing condition as a reference. We are going to associate the copy of the first condition with the same record. We need to have that record displayed in the page definition window. An easy way to do that, is to left click in the Amount Due box in the View/Edit window. Make sure you still have the CONTD format active. You should see **R[51]** in the page format window.

15. Click on the **Cond. Reference** Icon in the toolbar and drag it down to the **R[51]** line. When you release the mouse, the **Select condition** dialog will be displayed. See Figure 29. You will be shown a list of existing conditions defined in the page definition. Click on the condition that was created earlier, **TOTALBOX**, and click **OK.**
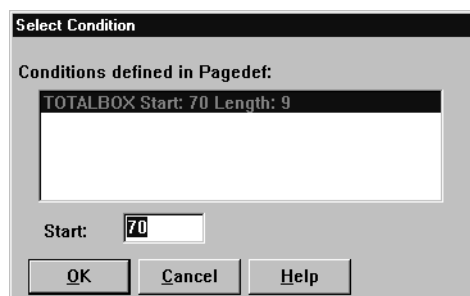
*Figure 29.  Select condition*

16. You will now see a tag showing the reference to the **TOTALBOX** condition associated with Record [51].

17. You have now completed your conditional processing definition. You can check your logic by opening the View/Edit window and paging through the data using the **Top** and **Next** buttons on the control bar. The layout of the data should change as the content of the total box field changes.

18. When everything is completed to your satisfaction, save your work and upload it to the iSeries.

### 1.12.3  Advanced conditional processing

These samples just touch on the power of conditional processing available in the architecture of the page definition. For more information on advanced conditional processing topics we recommend you refer to the *IBM Page Printer Formatting Aid: User's Guide,* S544-5284.

In that manual you will find information on situations such as:

• Using conditional processing to change copy groups

• Action on a condition at different times:
    • before the current line is formatted
    • before the current logical page is formatted
    • after the current line is formatted
    • after the current logical page is formatted

• Using conditions to start a new side or new sheet

- Using conditions triggered by a change in a value, such as change in invoice number
- Multi up processing

### 1.12.3.1 Differences between Infoprint Designer and PPFA

At the time of writing, there are a number of differences between functions available in the architecture of page and form definitions, and the functions available using the Infoprint Designer interface. It is possible that further PPFA functionality could be made available through the Infoprint Designer interface. However this is not guaranteed.

At time of writing, the following PPFA functions are *not* supported by Infoprint Designer (this is not a complete list):

- Record Formatting in the page definition
- Table Reference Characters (TRCs)
- AFP structured fields within the line data file
- PRINTDATA YES/NO subcommand in the PRINTLINE command
- Subcommands pertaining to finishing features such as stapling or z-folding available on some printers.

## 1.13 Constant text in the layout

There may be times when you wish to add a small item of constant text to your layout but do not need or wish to build a whole new overlay. One example of this is to add the project name in small print somewhere on the page. This is also a very good practice to adopt, similar to the reference number or code that external printing companies often print on pre-printed stationery.

Constant text is defined as a field on a given printline, and consequently will be specific to the page format that the printline occurs in. If your project includes multiple page formats you will have to add the constant text to all formats to which it applies.

### 1.13.1 Adding constant text in the View/Edit window

1. Activate the View/Edit window, and using the left mouse button, select an existing field that is going to print on the page. Click on **Tool - Append field** from the main menu.
2. You will be presented with the Field Properties dialog. Click on the **Fixed text** tab. Click on the **Fixed text** box and enter the text string for the field. (It is no longer necessary to enter the text string length).
3. Click on the **Font 1** tab and make the desired selections. Select **OK**.
4. This will take you back to the View/Edit window with the positioning cross hairs displayed. Use your left mouse button to place the constant text where you wish. It will now print any time the page format is activated.

## 1.14 Creating a landscape project

In the previous examples, data was presented in what is commonly known as *portrait orientation* (where the narrow edge of the paper is at the top). Infoprint Designer may also be used to create projects that are rotated to a *landscape orientation*, namely the data is oriented so that the long edge of the paper appears to be at the top.

There are some unique parameters that must be set correctly for the output to be generated with the correct orientation. This is true for any landscape project.

This section describes how to generate an Infoprint Designer project to simulate a function that is widely used on the iSeries for printing, namely Computer Output Reduction (COR). This function is implemented by setting the printer file parameter for Page Rotation (PAGRTT) to *COR or *AUTO.

This is the default used in iSeries printer files, such as QSYSPRT, QPJOBLOG, or QPSUPRTF. With PAGRTT(*COR) or PAGRTT(*AUTO), output that is normally destined for impact printers with forms that are 14 inches wide and 11 inches long is automatically reduced to print on cut sheet printers on 8.5 by 11 inch paper. For a complete description of the rules of COR, see *iSeries Printer Device Programming*, SC41-5713.

The advantage of using COR is that a programmer does not need to make any changes to print simple reports that were 132 or 198 characters wide by 66 lines long (based on 10 or 15 characters per inch and 6 lines per inch).

The disadvantage is that there is no flexibility. The font is predetermined and may even be different on different types of devices. Customers who previously changed their printer files to fit on legal (8.5 by 14 inch paper) cannot take advantage of COR if they must further reduce the output to 8.5 by 11.

With that said, it is possible to simulate the function of COR using Infoprint Designer while at the same time add other enhancements that are otherwise not available, such as:

- Adding an overlay
- Changing fonts for different parts of the report
- Adding conditional processing to format different pages differently

> **Note:**
>
> This project is not included in the initial shipment of Infoprint Designer. Copies will be made available in the future via PTF.

### 1.14.1 Understanding page origin

When designing a landscape application, the layout of the output is a function of how it relates to the logical page origin. In most cases, the origin of the paper is the top left corner when viewing the sheet in a portrait orientation. When you print a landscape job, the origin remains at the same spot on the page. However, from the data point of view, it becomes the bottom left corner.

There are additional considerations when printing to continuous form printers or when using the *n-up* function available on some IPDS printer models. For more

information on this topic, see *IBM Page Printer Formatting Aid: User's Guide,* S544-5284.

### 1.14.2  Creating a landscape overlay

The page size and orientation for an overlay is controlled by the overlay settings. While you are using the Overlay editor, select **File->Overlay Setup**. Then, select the **Size** tab. The panel shows the defaults, such as Horizontal (8.5 inches) and Vertical (11 inches) for Letter paper, with a 0 degree rotation. Do *not* change the Horizontal and Vertical values. Change the Orientation radio button to 90. This causes the Horizontal and Vertical values to switch automatically.
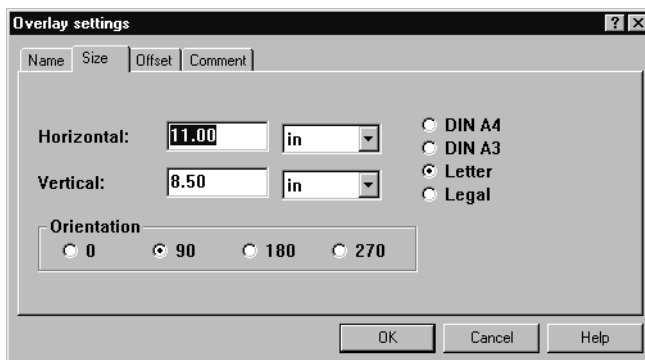


*Figure 30.  Overlay settings for landscape*

Figure 30 shows the panel that appears after selecting the desired rotation. When you close this dialog and return to the View/Edit window, the overlay frame (thin red line) reflects the new paper dimensions.

#### 1.14.2.1  Using images on a landscape overlay

When you place a page segment image on an overlay, its relative orientation, with respect to the origin of the page, remains constant (even if you define the overlay as being at 90 degrees). If you have a page segment that is normally used for portrait projects, you must make a new version of it for a landscape project. You can do this without leaving your Infoprint Designer project by following these steps:

1. While using the overlay editor, select **File->Get image**. Select the original (portrait) image and click **Open**.

2. The image may be placed off the top of the page boundary, but you should be able to see the blue outline box in the top left corner of the View/Edit window. Use the mouse to drag the blue box to an area where it is more visible. The image appears to be rotated. Figure 31 shows an example of a portrait image when it is initially placed on an overlay that is set up with Orientation 90.
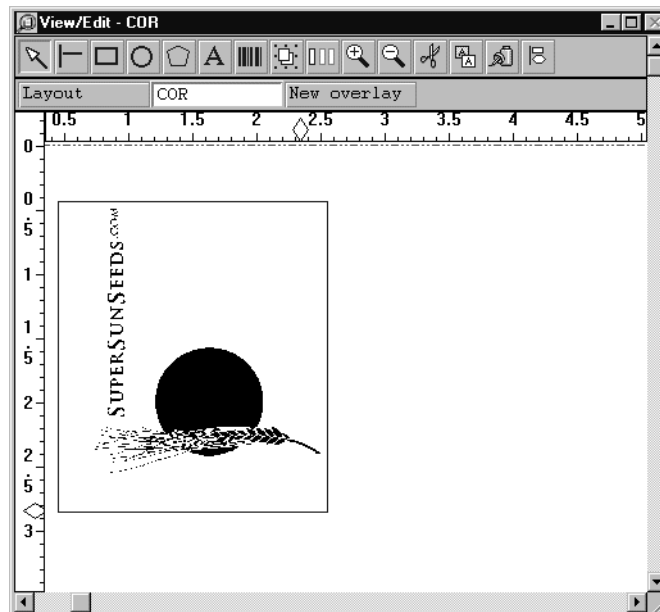
*Figure 31. Portrait image on a landscape overlay*

3. To rotate the image to 90 degrees to match the overlay, right-click on the blue box surrounding the image. The Page segment properties panel appears. Select the **Rotate** tab and click the radio button for Rotate: 90.

4. You are prompted to save the new page segment in your library path. A useful convention is to add "90" to the original name (in this case **SS2TOP90**). Figure 32 contains an example of the panel.
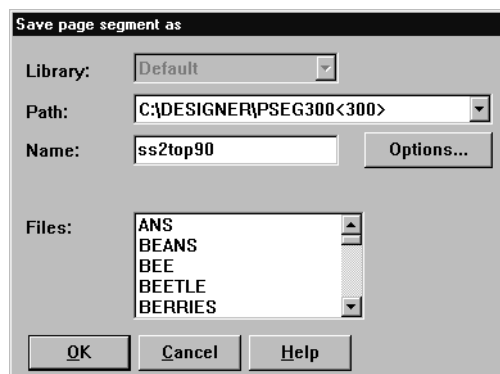


*Figure 32. Saving the rotated page segment*

> **Note:**
>
> If you are using Infoprint Image Editor to create your images, you have the opportunity to create the rotated versions by selecting **Image->Rotate** from the task list or by selecting the **Rotate the image** icon.

### 1.14.2.2 Overlay specifics for COR project

When COR is used, the interline spacing is reduced to 70 percent of the original specification. Output that normally prints at 6 lines per inch (or .1667 inches per

line) is reduced to 8.571 per inch (or .1167 inches per line). Each of the bars on this overlay accommodates three lines of print (or .35 inches). The outside box should be at least 10 inches wide and 7.7 inches high to accommodate output that has 132 characters by 66 lines. Add some extra white space to improve readability.

When dealing with an application like this that requires very precise measurement, it is a good idea to use the positioning section of the tool bar to accurately place each element on the page. Figure 33 shows an example of the toolbar for the first box on the overlay.

| 0 Pel | | Solid | | 10 % | | | | x: 0.30 | in | | y: 0.80 | in |
| | | | | | | | | w: 10.40 | in | | h: 0.35 | in |

*Figure 33.   Positioning section of the toolbar*

Figure 34 shows an example of a completed overlay that is used in the COR simulation project.
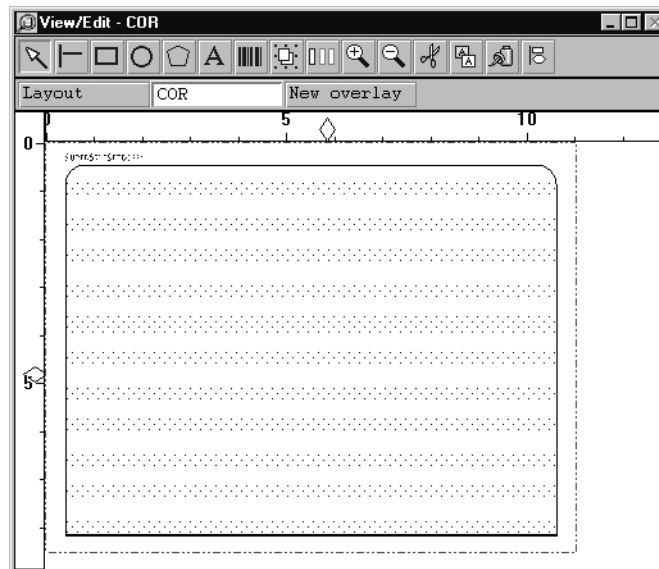


*Figure 34.   Sample overlay for COR simulation*

### 1.14.3  Creating a layout for landscape printing

As with the overlay, the data that you map on the page using the layout editor is positioned and oriented based on the origin of the paper. If you start your project by creating the landscape overlay, and then switch to Layout, the overlay appears sideways. This will be rectified by rotating the layout. Figure 35 on page 41 illustrates the relationship between the origin of the page and the placement of data for portrait and landscape orientation.
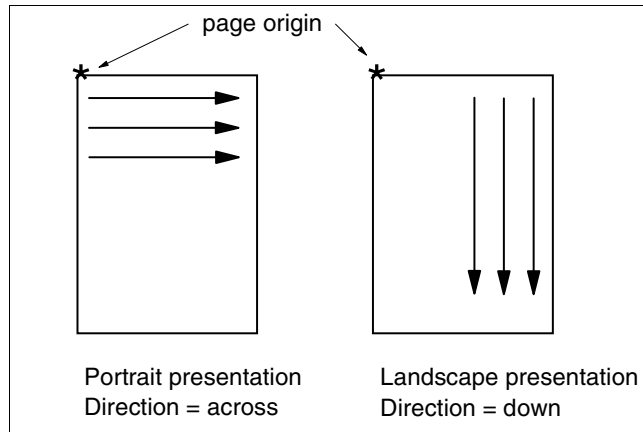
*Figure 35. Portrait and landscape presentation*

To set up your layout for landscape printing, select **Edit->Page properties ...**. In the case of a letter size application, you see an *X* value of 8.5 inches and a *Y* value of 11.0 inches. Do *not* change these. Select the radio button for Direction **Down**. The X and Y values switch for you. Figure 36 shows the panel you see when you do this.
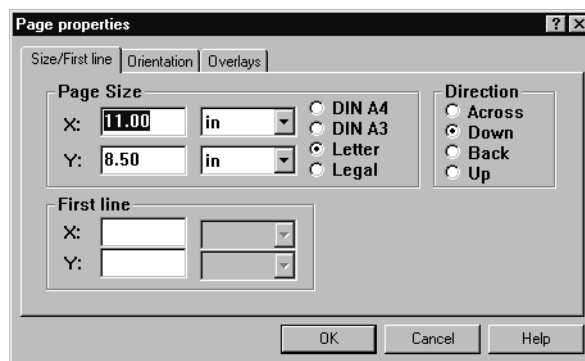


*Figure 36. Page properties for landscape layout*

You do not have to select the Orientation tab from this window unless you are printing on a continuous form printer. *IBM Page Printer Formatting Aid: User's Guide,* S544-5284, describes the relationship between the values for *Direction* and *Orientation*.

When you Close the Page properties dialog, the page size in the View/Edit window should reflect these changes, and the overlay should be presented in the correct orientation.

### 1.14.4  Layout specifics for COR project

There are a number of things you must be aware of when creating a layout for a landscape project (in particular, one that simulates the COR function):

1. If the original application is set to print at 10 characters per inch (cpi), COR converts that to a font that prints at 13.3 cpi. When selecting a font in Infoprint Designer, use a fixed pitch font (such as Courier or Gothic Text) and select a

Size of 9 points. Use the information in Table 3 to determine the correct point size depending on the original spooled file cpi setting.

*Table 3. Font size selection for COR*

| Original cpi | COR cpi | point size |
|---|---|---|
| 10 | 13.3 | 9 |
| 12 | 15 | 8 |
| 15 | 20 | 6 |

2. The interline spacing used by COR is 70% of the standard spacing. This works out to 0.1167... inches (or 8.5714... lines per inch). To avoid any chance of rounding errors, you may choose to use the *pels* units of measure. Infoprint Designer uses 240 pels per inch. This number is not affected by the selection of Host Printer Resolution in the General tap in the Preferences dialog. At 6 lines per inch, standard output measures 40 pels. With COR, an interline spacing of 28 pels is used.

> **Note:**
>
> It is important to set the Infoprint Designer Preferences for **Vertical unit** and **Line spacing unit** prior bringing in the sample data and working on the Layout portion of the project. Select **Edit -> Preferences** and click the **Units and Grids** tab. Figure 37 illustrates the dialog box. If you do not do this, you may find you get "out of page boundary" errors when uploading your project to the iSeries. See 1.14.7, "Boundary errors" on page 45.
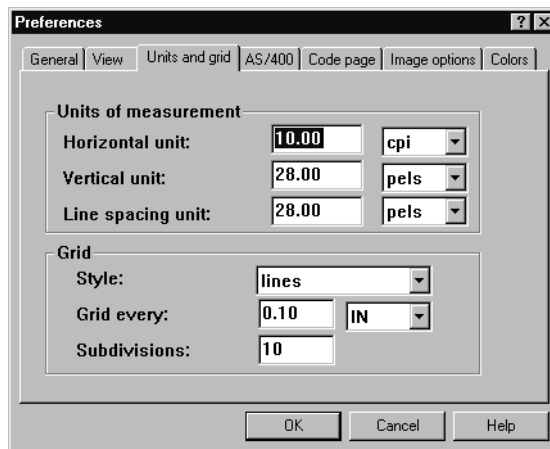


*Figure 37. Setting preferences for units and grids*

3. After you have mapped the data to the View/Edit window, click on any line of data but the first, and verify the value for *s:* in the positioning section of the toolbar. An example of this is shown in Figure 40. If the incorrect value is displayed, it probably means that the Preferences were not set correctly. It is best to fix the preferences, refresh the sample data, and redo the mapping.

4. When mapping the data, ensure that you select all of the records and the entire length of the records at one time. This ensures that any font changes you make to the first field affects the entire page and that the selected line spacing is used throughout.

If your data does not allow for this, you can fix the layout after performing the initial mapping. Left-click the first line of data and then right-click to bring up the **Field properties** window. Click the **Printline properties** button. On the Printline properties window, change the value for Repeat: to reflect the number of lines you want to map (for example, 66).

For example, the sample COR project was created using an iSeries JOBLOG that had 60 lines of data per page. By modifying the project to support up to 66 lines, it will generate resources that can be used by a wider variety of iSeries reports.

5. If you change the repeat value, you may find that there are extra unused printlines in the page definition. It is a good idea to look at the page definition tree. It should be similar to the page definition shown in Figure 38.
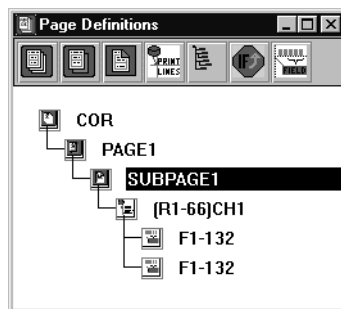


*Figure 38. Page definition for sample COR layout*

6. Some points to note regarding this page definition:

   a. If you mapped all of the records as one repeat group, there should be one printline on the subpage indicating the desired number of repeats (in this example, (R1-66)). Any extra printlines must be deleted.

   b. The CH1 indicates that this printline is activated any time there is a "1" in the first position of the data record. This ensures that a new page is started when required. Make sure you have not modified or deleted this setting in the course of making other changes.

   c. There are two fields mapped in the one printline definition.

   d. One field (probably the second) was generated when you dragged and dropped the map data. It should reflect the correct line length. If it requires adjusting, right-click on the field entry and change the value in the Length: box.

   e. The other field is generated automatically by Infoprint Designer and references the DFLT suppression. See 1.8.3, "Infoprint Designer and suppression" on page 24 for more information on the DFLT suppression. To determine which field is which, right-click on one of the fields to bring up the Field Properties window. Then, left-click the **Suppress** button. The **Name:** field contains the value **DFLT** for the 'Suppressed' fields, and is blank for the fields you map intentionally. If, and only if, all lines of your original spooled file are to be mapped, you may delete the "Suppressed" fields.
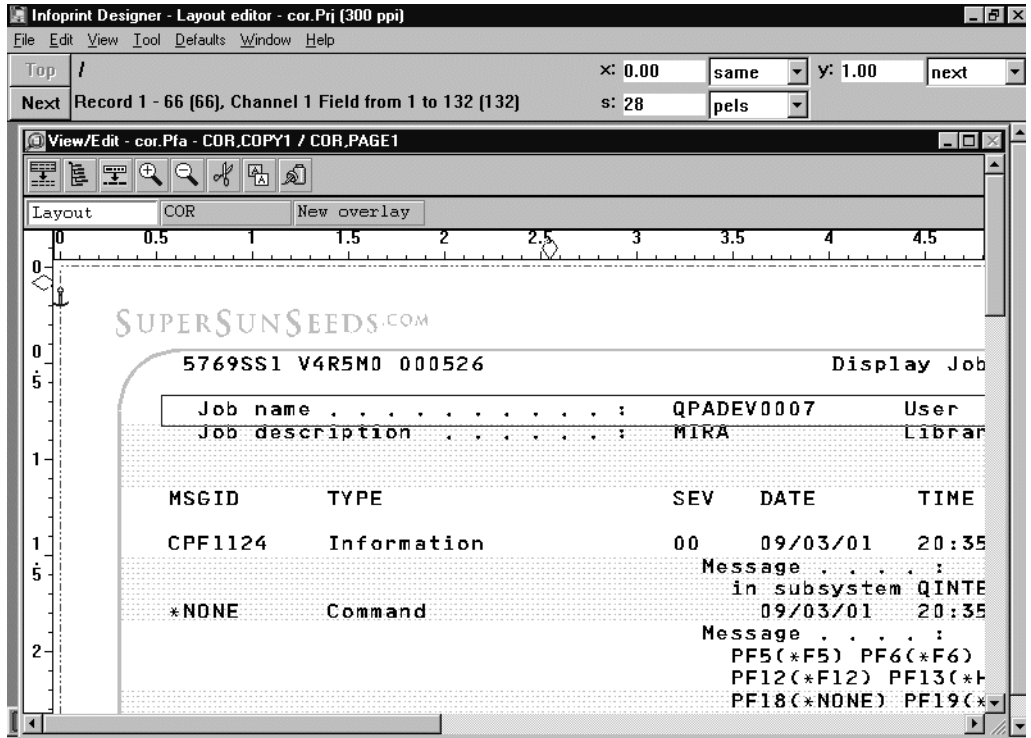
*Figure 39. Completed COR project*

Figure 39 shows an example of the completed COR project using sample data from a job log. In this view, the third record was selected to show the *s:* value of 28 pels for interline spacing in the toolbar. The entry in the toolbar confirms that Records 1 through 66 are mapped together, are triggered by a Channel 1, and that a field from 1 to 132 bytes is mapped.

We recommend that the user create a similar landscape project before attempting one that is more complex.

### 1.14.5  Using the COR project on your iSeries

You can use this project with many iSeries system printer files that default to 132 columns by 66 lines. This example illustrates using using it to format a job log listing.

1. Determine the printer file name for your listing. In the case of a job log, the printer file used is QPJOBLOG.

2. Enter to command to override the printer file with the parameters for using the COR project:

   ```
   OVRPRTF QPJOBLOG DEVTYPE(*LINE) FORMDF(COR) PAGDFN(COR) DUPLEX(*FORMDF)
   ```

   If you choose to use this permanently, make a copy of the QPJOBLOG printer file in a user library and use the CHGPRTF command to make the changes.

3. Enter the command to create a printout of your current job's joblog:

   ```
   DSPJOBLOG * *PRINT
   ```

   The joblog generated should print using the new form definition, page definition and overlay.

### 1.14.6  Variation of a theme

In the previous example, not much was done beyond simulating a function that the iSeries already performs quite easily. This apparently redundant exercise was performed because, once you understand how to create a relatively simple landscape project, you can use the features of Infoprint Designer to take it to the next level.

#### 1.14.6.1  Using multiple fonts

As you may have discovered while working on this or other projects, records that are handled in exactly the same manner are grouped as repeats within one printline. If you want to use a different font for the heading section of a report (compared to the body), you must define two separate printlines. Perform this as two separate mapping operations.

If you make a mistake, you can often fix it from the page definition tree by adjusting the repeat values or erasing extra printlines.

Use a high zoom value to align the different sets of data correctly. An alternate approach is to perform some calculations first so you can precisely position the elements.

#### 1.14.6.2  Conditional processing

Some reports may have different formatting requirements for a heading page at the beginning or a summary page at the end. You may use Infoprint Designer's conditional processing feature to identify those pages and handle them accordingly.

A large report may have logical sections within it for different regional or departmental information. Select the **When Change** radio button in the condition definition to trigger the selection of a different copy group that uses a colored paper from a different drawer.

### 1.14.7  Boundary errors

One common problem encountered during testing was the occurrence of a message, such as :

```
(R1-66)CH1 position exceeds the logical (PAGE1) boundary
```

This message is generated at the time the project is uploaded to the iSeries server. The cause of this is likely incorrect settings for line spacing on the Printline or individual field properties. This is often a result of not settings the Units and Grids tab under **Edit -> Preferences** correctly, before beginning the layout. However, it is possible to rectify the situation after the fact.

To bypass this error, check the Line Spacing settings in the Printline properties and in the Field properties. In all cases, they should be set at the correct value for your application (for example, 28 pels). To do this, right-click on the **Printline** and select the **Orientation** tab. The Line Spacing setting appears on that window as shown in Figure 40. Change the value if necessary. Repeat these steps to check the Line Spacing value for the two fields.
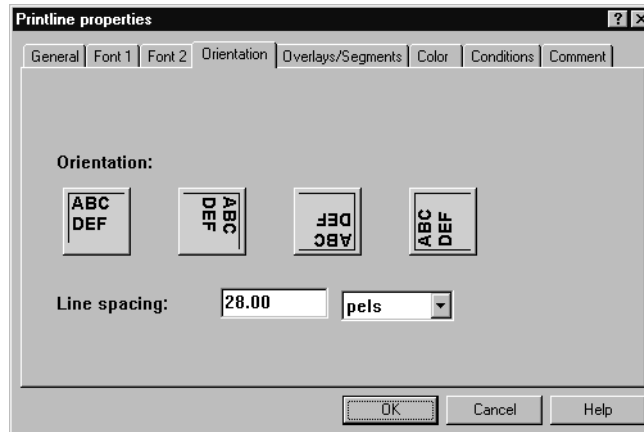
*Figure 40.  Changing line spacing for a Printline*

After making these changes to the line spacing, minor adjustments may be required to the position of the first line of print.

## 1.15  Multi-up bar code labels

The example in this section shows how Infoprint Designer may be used for a Multi-up application, which means that many logical pages from the original application are placed on one physical page.

This example also demonstrates the use of bar codes.

> **Note:**
>
> This project is not included in the initial shipment of Infoprint Designer. Copies will be made available in the future via PTF.

### 1.15.1  Project description

Super Sun Seeds prints bar code labels to place on seed packets. These labels are printed four to a page in a landscape orientation. Each label has a product number printed as a bar code, the product name, quantity, and a short description of one to three lines. The spooled file is generated with the information for each label as if it were to be printed on a separate page. This is referred to as the logical page.

### 1.15.2  Overlay creations for SEEDS project

Begin a new project, *SEEDS*, starting with the Overlay definition. Select **File->Overlay setup->Size** to change the overlay Orientation to 90.

Start the overlay by drawing lines to separate the quadrants of the page. These help you position the other elements as the project is developed. If you want, you may delete them when you are done. Draw other lines and boxes as needed. Design all the elements for one of the labels and then use the group function to copy the complete label to make the other three labels. If you are using any page segments, ensure you use the rotated versions.

### 1.15.3  Mapping data for the first label

When the overlay is complete, save your overlay and then click the **Layout** button. Select the source for your sample data. In this project we have used the PC file `seeds.dat`. When you are presented with the Line data options window, notice that the page length defaults to 66. Change this to "4". This corresponds to the maximum number of data records that appears on each logical page. Doing this prevents unnecessary printline generation.

Figure 41 shows the sample data as it appears when it is first brought into the project. For the benefit of those reading hardcopy from a monochrome printer, note that only the data for the first label (HIGH ALTITUDE WATERMELON) is in blue. Subsequent labels, or logical pages, are in displayed in red.
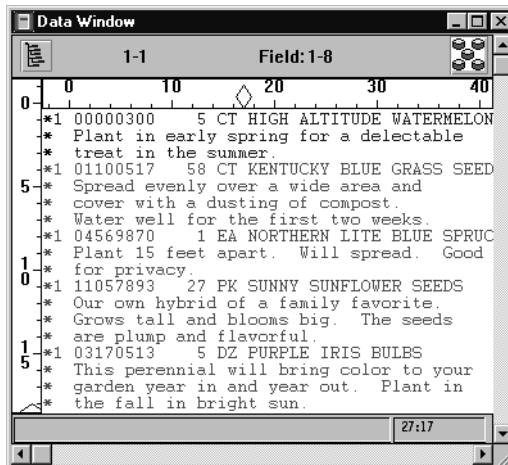


Figure 41.  Sample data for label project

Before you map any data onto the page, you must set it up for landscape oriented printing. Select **Edit->Page properties** and click the **Direction: Down** radio button.

You are now ready to start mapping the fields. The first page of this file only contains two lines of description. It is better to use the second page (KENTUCKY BLUE GRASS SEEDS), which has the maximum number of description lines on it. Click the **Next** button on the toolbar to activate this page.

Drag the quantity and product description fields onto the first label and set the fonts for each of these fields.

Drag the item number onto the first label and right-click to bring up the Field Properties window. Click the **Bar code** button. The following list describes the settings used in this example:

- On the General tab of the Bar code options window, you must enter a reference name for your bar code. This allows you to reuse these same settings for other fields without redefining each option.

- Select a Bar Code type. In this example, *CODE128* is used.

- HRI stands for Human Readable Interpretation. Select this tab to control whether the data is to be printed above or below the bar code lines (this also specifies which font is to be used).

• On the size tab, a height of .5 inches is selected. The element width is set to 20 / 1000 of an inch.

When you press OK on the barcode dialog, the item number is shown in the bar code on the overlay.

Highlight the three lines of the description and drag them over to the label in one operation. Change the font and set the interline spacing so that it fits nicely in the box.

At this point, the first label is complete and it looks something like the example shown in Figure 42. Use the **Top** and **Next** buttons to page through the data to verify that all of the pages fit nicely.
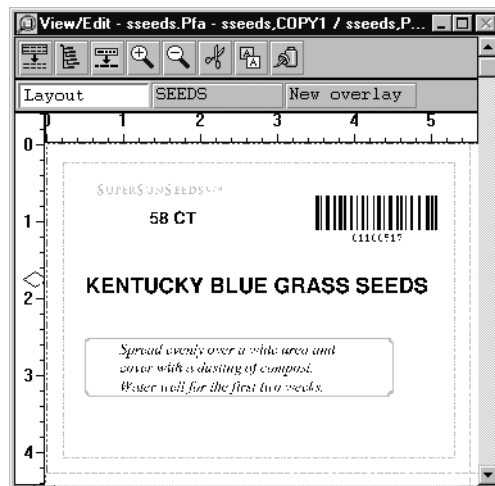


*Figure 42. Completed first label*

### 1.15.4 Mapping the remaining labels

The next step is to duplicate this mapping for the other three labels. One way to do this is by brute force. Namely, repeat all the dragging, mapping, and setting of fonts and other properties. However, it is easier to make copies of the work performed by working on the Page Definition tree.

Open the Page Definitions window. The page definition for the first label should look something like the example shown in Figure 43.
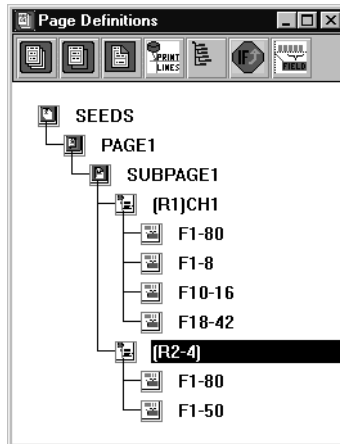
*Figure 43. Page definition for first label*

There should be two printline definitions. Both have a field of 1-80 for the suppressed fields. The first printline references record one and have a Channel code defined. Three data fields are mapped in it. The second print line repeats from record two through four and maps the description fields.

If extra printlines appear, you must delete them. Left-click them and then press Delete.

Before you begin duplicating the printlines, you may find it easier to work if you collapse the fields within the printlines. Double-click the icon for each printline. The Field definitions disappear and a plus sign appears beside the printline icon.

To copy a given printline, hold down the Ctrl button on the keyboard. Left-click and drag the icon of the printline you want to copy to the bottom of the tree. When you do this, the fields are expanded. It is a good idea to collapse each printline as you go along.

Copy the printline for (R1)CH1 and place it at the bottom of the tree. The new printline is labeled (R5)CH1. Next, copy the printline (R2-4) to create (R6-8). Repeat until you have four pairs of printlines (representing a total of 16 records). The resulting page definition tree should look like Figure 44.
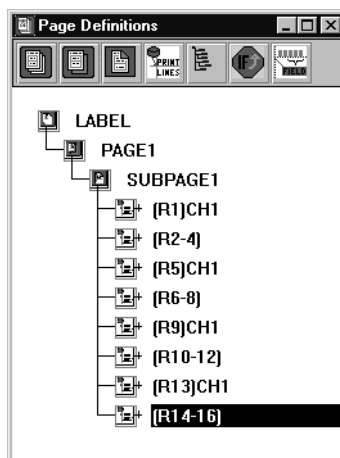


*Figure 44. Page definition after copying printlines*

While you are making copies of the records in the page definition tree, you may have noticed two things. In the Data window, the records for the first four labels are now blue. The layout in the View/Edit window has become quite congested. Do not be alarmed if it looks something like Figure 45.
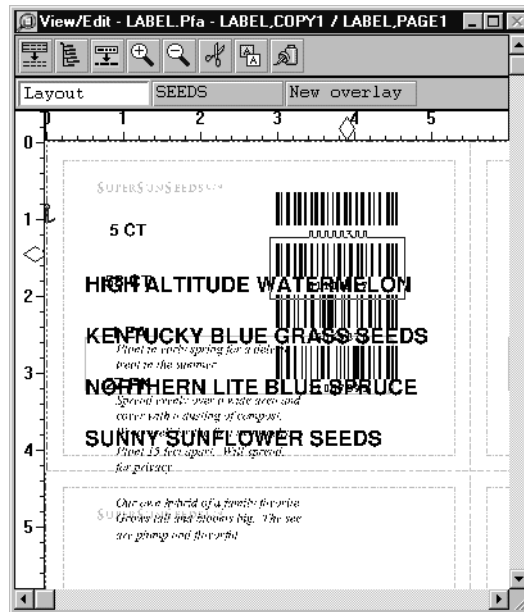


*Figure 45. View/Edit window after copying printlines*

There are two methods of moving the label data onto the corresponding quadrants on the page. One is to use drag and drop, and the other is to enter the locations in the position fields on the toolbar.

### Drag and drop method
Left-click on one of the data fields from the first record of the second label. In the example in Figure 45, the bar code for the Kentucky Blue Grass record is selected. Notice a small blue anchor displayed near the left margin of the page. This is the reference point for that printline. Holding the left mouse button, drag the anchor so that the data for the second label fits in the top right quadrant of the page. Notice that the data for the third and fourth labels is dragged along as well.

Repeat this process for the other two sets of records.

### Numerical method
This method involves a little more arithmetic than the drag and drop method, but is more accurate. It involves direct manipulation of the x and y coordinate values for the printlines in the position section of the toolbar. These are the upper pair of numbers that you see when you click on an element.

By default, each printline prints at the same x value as the previous printline, and the y value increases based on the settings in the Printline properties. The x and y values appear as *same* and *next* respectively. What you must do is determine where the first printline is anchored and then add 5.5 and 4.25 inches (half of 11 by 8.5, for Letter size paper) to the x and y coordinates of the other three printlines.

Select one element from the first record of the first label. To view the absolute position of that record's anchor change, the units in the printline coordinates on the tool bar from *same* and *next* to *inches*. The values for x and y should now appear as 0.00 and 0.17 inches respectively. You can now click on elements of the other records and change their anchor position accordingly. Make sure you click on elements from the first record of each of the labels, *not* the description records. You can use the information provided in Table 4.

*Table 4. X and Y coordinates for each label*

| Label | X coordinate | Y coordinate |
|-------|--------------|--------------|
| 1 | 0 | 0.17 |
| 2 | 5.5 | 0.17 |
| 3 | 0 | 4.42 |
| 4 | 5.5 | 4.42 |

Using either method, or a combination of the two, the final outcome should look something like Figure 46. Note the new positions of the anchor for the Kentucky Blue Grass Seeds label.
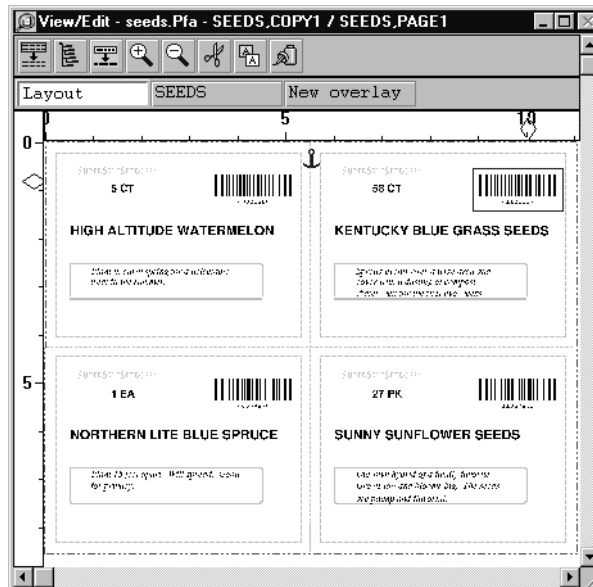


*Figure 46. Completed label project*

### 1.15.5 Using the SEEDS project on your iSeries

To print the seeds project on the iSeries, follow these steps:

1. Create a physical file on the iSeries for the data.

   ```
   CRTPF mylib/SEEDS RCDLEN(81)
   ```

2. Use FTP or Client Access to copy the data from the PC file that is used for this project into the physical file. The file must be translated from ASCII to EBCDIC during the transfer process. In this example FTP is used.

   a. Open a DOS window. Select the directory that contains the sample seeds data file:

   ```
   cd Designer\DATA
   ```

     b. Begin the ftp session with your iSeries:

```
C:\Designer\DATA>ftp BLDASL1
```

     c. Enter your userid and password when prompted.

     d. Check to see if the destination iSeries library is correct:

```
ftp>pwd
```

     e. If you want to use a different target library, you can change it:

```
ftp>cd mylib
```

     f. Copy the Seeds.dat file into the iSeries physical file SEEDS, member SEEDS:

```
ftp>put seeds.dat seeds.seeds
```

     g. End the ftp session:

```
ftp>quit
```

3. Create a printer file that uses the project:

```
CRTPRTF SEEDSPRTF DEVTYPE(*LINE) FORMDF(SEEDS) PAGDFN(SEEDS) CTLCHAR(*FCFC)
```

4. Copy the data from the physical file to the printer file:

```
CPYF SEEDS SEEDSPRTF
```

This generates samples of the Super Sun Seeds labels.

## 1.16  Putting the application into production

To utilize the AFP resources you have created and transform the original application, you must override or change the printer file to:

- generate line data
- refer to the page definition AFP resource name
- refer to the form definition AFP resource name
- use the Drawer selection from the form definition
- use the Duplex selection from the form definition

You must also ensure that the AFP resources can be located by the print writer (i.e. PSF/400)

### 1.16.1  Change printer file to *LINE data

The printer file DEVTYPE parameter dictates the format of the data stream the iSeries will produce. The default is *SCS. For printing using an Infoprint Designer-enhanced application this must be changed (or overridden) to *LINE. You can identify the printer file from the spooled file attributes. Use option 8-Attributes against a list of spooled files on your system. You would then use the following command to invoke this change:

```
CHGPRTF printer_file_name DEVTYPE(*LINE)
```

```
                                 Work with Spooled File Attributes

Job  . . . . . . . . :    QPRTJOB        File . . . . . . . . :    INVSCS
  User . . . . . . . :    SIMON            Number . . . . . . :       1
  Number . . . . . . :    235527


Device type  . . . . . . . . . . . . . :    PRINTER
Printer device type  . . . . . . . . . :    *SCS
Device file  . . . . . . . . . . . . . :    QSYSPRT
  Library  . . . . . . . . . . . . . . :      QSYS
User-specified data  . . . . . . . . . :    SSS.COM
Accounting code  . . . . . . . . . . . :    982806
Program that opened file . . . . . . . :
  Library  . . . . . . . . . . . . . . :
Date file was opened . . . . . . . . . :    03/26/01
Time file was opened . . . . . . . . . :    15:53:41
Date file was last used  . . . . . . . :    03/26/01
System where file created  . . . . . . :    BLDAS45
User who created file  . . . . . . . . :    SIMON
                                                                            More...
Press Enter to continue.
```

*Figure 47.  Identifying the printer file that created the sample spooled file*

### 1.16.2  Override printer file to use *LINE data

In Figure 47, the printer file is QSYSPRT in library QSYS. This is an example of where an application-specific printer file has *not* been used. The "Q" prefix tells us this is an IBM-supplied printer file and we do not recommend changing this printer file (else screen prints and much other output will be affected). Instead you must track down the programmer and the step in his or her code that *overrides* the QSYSPRT printer file. You can then arrange for the device type parameter (and the page and form definition parameters) to be altered.

### 1.16.3  Add page and form definitions to the printer file

Use either the CHGPRTF or OVRPRTF command as described above to add the page and form definition names, and their library, to the application printer file.

### 1.16.4  Duplex and drawer selection

PSF/400 will use the value specified in the printer file for Duplex and Drawer selection over any such specifications in the form definition. Change or override the printer file to select DRAWER(*FORMDF) and DUPLEX(*FORMDF) to make sure the design you created in Infoprint Designer is implemented correctly.

### 1.16.5  Library lists

As with all AFP resources the iSeries must be able to find the resources, i.e. in an accessible library list. If you get missing overlays, logos, etc. from your output, the most likely cause is that the library to which you uploaded the resources is not in your library list.

For interactive work (probably testing) you can add any resource libraries to your own library list (EDTLIBL). For batch application, add the libraries to the printer (Device Resource List in the PSF configuration object), or to the job's library list.

### 1.16.6  Create / copy printer file with *LINE data, place higher in library list

If it is not possible to change the printer file and you do not have access to the system code that runs the application, it may be possible to locate the printer file as above, then take a copy of this (or create a new one from scratch). It must be the same name as the original (because the application will refer to it by name) but if we store it higher up in the library list, with our page and form definitions and *LINE data parameter added, PSF/400 will then locate and use this printer file first.

## 1.17  Problem quick-fixing

This section is a quick-fix guide to problems you may experience.

### 1.17.1  Library profile must exist

Infoprint Designer stores all the library path names in the Default.lbp (or Raster.lbp file - see 1.2, "Setting up the PC libraries" on page 3). It expects to find this text file in C:\DESIGNER\USERISIS. If for some reason this file is moved or missing, symptoms include:

- no fonts, or other AFP resources, available to work with
- blank name displayed for Library in the Libraries dialog box
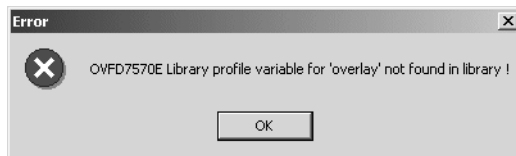- Messages such as the one shown in Figure 48



*Figure 48.  Failure to find default library for overlay resource*

To correct this problem, use **Edit - Change library** and select the correct library profile file.

### 1.17.2  Missing resources

Figure 49, "Page segment missing from imported overlay" on page 55 shows the results of opening an overlay referencing a page segment (separate AFP resource), the location of which is not known to Infoprint Designer. To correct this, either copy the AFP page segment into the correct Infoprint Designer resource library, or add its path information to the library profile. We will look at both examples.
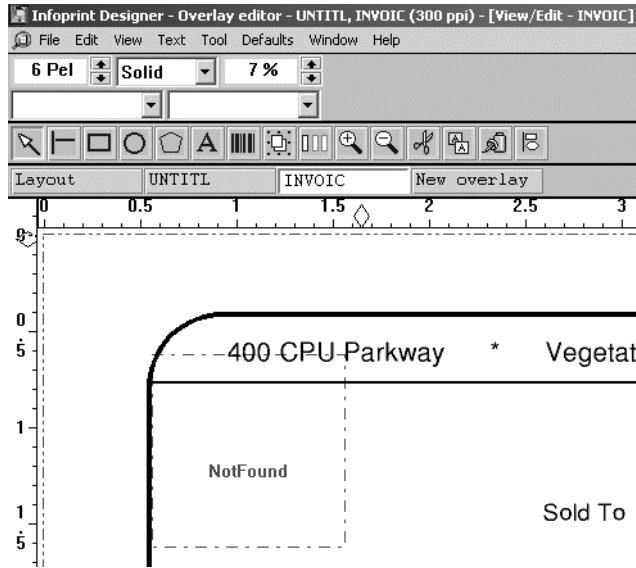
*Figure 49.  Page segment missing from imported overlay*

### 1.17.2.1  Copy missing resource to Infoprint Designer library

To place a copy of the missing AFP resource into the Infoprint Designer resource
library, simply use Windows Explorer to copy/paste the AFP resource into the
appropriate PSEG library (PSEG300 in this example). Now right mouse
button-click in the red boxed area representing the missing resource. This brings
up the **Page segment parameters** dialog, from where you can click **Refresh**. The
page segment should then be displayed

If Infoprint Designer encounters a resource not in any of the current libraries (for
example a page segment referenced within an overlay), it prompts you to save it
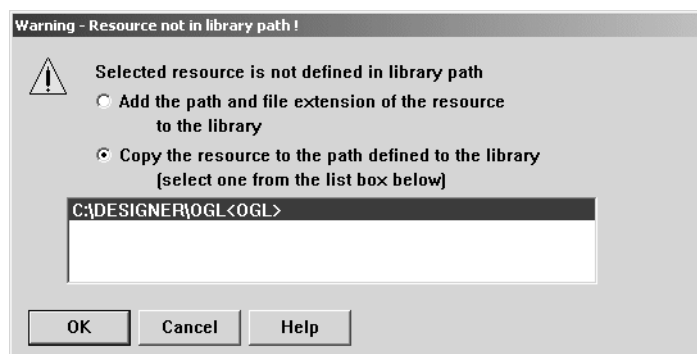in a library profile - see Figure 50.

.



*Figure 50.  Prompt to add AFP resource information*

### 1.17.2.2  Add path information to Infoprint Designer

This method leaves the AFP resource where it is (perhaps on a network drive)
and tells Infoprint Designer in which library the resource is to be found. See
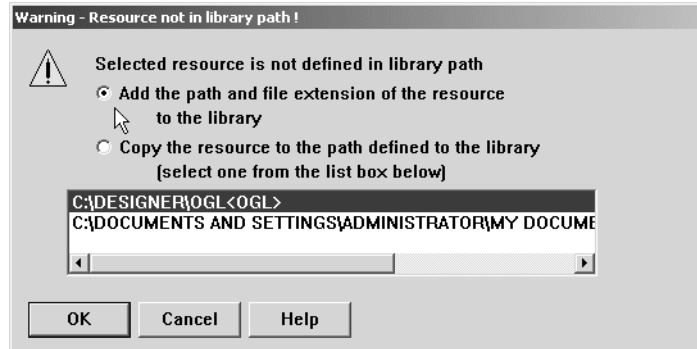Figure 51.

*Figure 51. Prompt to add resource location information*

Simply enter the path of the custom library and the file extension when prompted and click on **Append.** Make sure you have the correct resource tab selected, in this case **Overlay.** See Figure 52 on page 56.
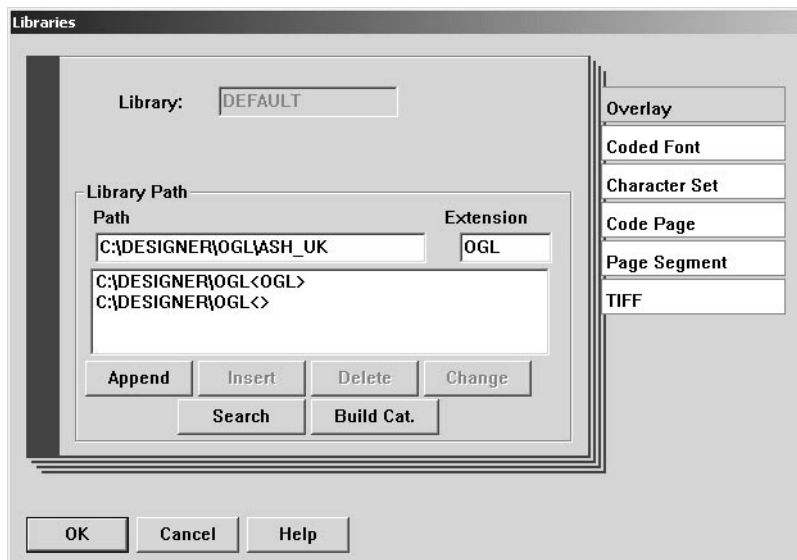


*Figure 52. Adding the path and file extension of a resource to the library profile*

We recommend you use the latter method, i.e. add the path and file extension of the resource to the Infoprint Designer resource library. This has the following advantages:

- resources are kept in the location of your choice
- resources may be backed up more easily
- resources are kept separate from the IBM-supplied programs and code
- extra / alternative resource suffixes may be defined and added (such as those in Table 2 on page 4).

However you should be aware that there is a 1024-character limit to the list of path names for any one resource type.

### 1.17.3 Data shown on constant back overlay

If you are using a Constant Back overlay, as described in 1.11, "Adding a constant back to a subgroup" on page 30, you may notice the following problem.

As you page through the Data Window, using the Next and Back buttons, you will see data displayed along with the back overlay. This is because we are in effect trying to show both the front and reverse sides of the document on the PC screen. Unfortunately Infoprint Designer only displays pages using the data in the sample file, so it superimposes the data from the front side on the constant (back) overlay. Rest assured that the data intended for the front sides of the job will print correctly and no data will print on the constant back sides, so the pagination of your job will be correct when you send the job to the printer.

To work around this, you can temporarily prevent Infoprint Designer from displaying the back overlay once you have verified that they are being included at the correct points. To do this, deselect **Merge windows** in the **Window** menu option.

### 1.17.4  License issues and information

Only one copy of Infoprint Designer can be used on an iSeries system at any one time. However you can install multiple copies of the client on multiple PCs. Infoprint Designer can only be used while it has a "live" session with the iSeries system. If another user starts up an instance of the client, the software runs in "Demo" mode, where file save and the Upload functions are disabled.

There is a PRPQ offering from IBM to support multiple simultaneous users of Infoprint Designer, should you feel this is necessary. (PRPQ stands for Programming Request for Price Quotation i.e. an IBM-modified program product offering). At the time of writing the PRPQ number was not available, but the PTF to enable this support is SF66255.