



# Printing Scenarios for Infoprint Manager with the Infoprint Color 130 Plus



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## Chapter 1. About this document

The IBM® Infoprint™ Color 130 Plus is a high-speed, high quality, full-color digital printer that you can submit jobs to through Infoprint Manager. This document provides you with some sample scenarios of how to use the Infoprint Color 130 Plus with Infoprint Manager and with the prerequisite steps necessary for these scenarios.

This document takes you through steps to submit different kinds of jobs to the Infoprint Color 130 Plus using different methods. The following list describes these scenarios:

- An Advanced Function Presentation™ (AFP) document created in a page layout application is submitted through Infoprint Manager for printing to the Infoprint Color 130 Plus using the command line. Color images are transformed offline using the AIX® command line.
- A PostScript document is submitted for printing to the Infoprint Color 130 Plus using Infoprint Submit.
- A document is submitted for printing to the Infoprint Color 130 Plus using MVS® Download.

You will need additional information when using the Infoprint Color 130 Plus. This document contains references to the following manuals:

- *IBM Infoprint Manager for AIX: Administrator's Guide* S544-5595
- *IBM Infoprint Manager for AIX: User's and Operator's Guide* S544-5596
- *Infoprint Manager: Reference* S544-5475
- *Print Services Facility™ for OS/390®: User's Guide* S544-5630

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## Infoprint Color 130 Plus

The Infoprint Color 130 Plus system processes and prints high quality color AFP™ output at high speeds. It also processes and prints PDF or PostScript documents that include high resolution color images.

The Infoprint Color 130 Plus with Infoprint Manager for AIX combines job management and page-level error recovery capabilities with the ability to print full-color applications and documents. The Infoprint Color 130 Plus can support applications that use data formats, such as Encapsulated PostScript (EPS), Portable document format (PDF), Tag image file format (TIFF), Graphic interchange format (GIF), and Joint photographic experts group (JPEG), as resources for variable data AFP documents. The AFP architecture allows you to use the Rasterized Image Processor (RIP) to process these resources in the Advanced Function Common Control Unit™ (AFCCU) and save them in the printer. This capability improves performance by eliminating the need to re-RIP these resources. It is not necessary to convert single page PDF, EPS, TIFF, GIF, or JPEG objects to color images prior to sending them to the printer. These objects can be RIPPed directly in the AFCCU™, increasing performance.

March 19, 2001



## Chapter 2. Setting up

The scenarios in this document assume that you have completed the following tasks prior to submitting the job to the printer, if they are applicable.

- Built a data stream
- Set Color Rasterized Image Processor (RIP) as the default, for PostScript data streams
- Identified the location of your AFP resources
- Created an Infoprint Manager actual destination
- Transformed color images

Refer to "Installing and Configuring Printer Devices and Related Hardware" in the *IBM Infoprint Manager for AIX: Administrator's Guide* for specific information on configuring Infoprint Manager for AIX with the Infoprint Color 130 Plus.

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### Building a data stream

Build your AFP data stream by using any AFP statement generator or application. Refer to "Understanding Form Definitions and Page Definitions" in *Print Services Facility for OS/390: User's Guide* for more information about AFP architecture.

Build your PostScript data stream with any application that generates PostScript, such as Microsoft® Word with a PostScript driver. Infoprint Manager sends PostScript data streams to be transformed and RIPPed at the server.

---

### Setting the color RIP as default, for PostScript jobs only

**Note:** You only need to perform this step if you will be submitting color PostScript print jobs to your Infoprint Color 130 Plus.

The RIP generates the data stream that Infoprint Manager sends to the printer. By default, Infoprint Manager uses a RIP that produces monochrome (black and white) documents. Therefore, you must install and start the color RIP before you send color documents to your Infoprint Color 130 Plus. You only have to start the RIP once.

**Note:** The RIP applies to all printers on the server. As a result, you should dedicate one AIX server entirely to your Infoprint Color 130 Plus; this system should only contain one Infoprint Manager server, and it should only send print jobs to one Infoprint Color 130 Plus.

To start the color RIP, type the following at an AIX command prompt:

```
install.color
```

and press **Enter**. When the install.color script is finished, you will see the message: The color Postscript config files have been activated.

If you ever want to send monochrome print jobs to your Infoprint Color 130 Plus, you can stop the color RIP and start the monochrome RIP by typing the following at an AIX command prompt:

install.mono

and press **Enter**. When the install.mono script is finished, you will see the message:  
The monochrome Postscript config files have been activated.

Be sure to start the color RIP again before you resume printing color jobs. If you do not, your color PostScript may fail the RIP.

The /usr/lpp/psf/bin/install.color and /usr/lpp/psf/bin/install.mono scripts are shipped with Infoprint Manager.

**Note:** These scripts should be run when no printing or RIPping is in progress.

---

## Identifying AFP resources

There are various kinds of AFP resources, such as form definitions, page definitions, overlays, and fonts. The newest kind of resource is the *data object*. Like other resources, data object resources are files that you can include in AFP documents. Data object resources can be EPS, PDF, and IOCA files as well as TIF, GIF, and JPEG images via the transforms that come with Infoprint Manager. (TIF, GIF, and JPEG images must be transformed into AFP using the appropriate transforms before they can be considered data object resources. See “Transforming color images” on page 5.

In Infoprint Manager, data object resources are grouped with BCOCA and GOCA objects, and all of those types of files are called *presentation object containers*. As with other kinds of AFP resources, you must tell Infoprint Manager where your presentation object containers are located.

You can define where your image resources are stored either from the AIX command line using the **pdset** command with the **resource-context-presentation-object-container** attribute or using the Infoprint Manager Administration GUI.

Follow this procedure to set the attributes using the GUI.

1. Start the Infoprint Manager Administration GUI.
2. Select **Options** → **Customize**.
3. In the **Customize** dialog, click the **Printer** tab.
4. In the **Action** column, find **Change Tuning**, **Change AFP Resources**, and **Change AFP Color**, and select the check boxes in the **Menu** column next to them.

This step adds these tasks to the **Printer** menu. If you want to add other tasks to the Printer menu or to any other menu, you can do it now or you can wait until later.

5. Click **OK** to apply the settings and close the dialog.
6. Select your Infoprint Color 130 printer that you create in “Creating an actual destination” on page 5.
7. Select **Printer** → **Change AFP Resources** to open the **Change AFP Resources** dialog.
8. In the **Change AFP Resources** dialog, find the **Location of presentation object containers** field and type the path where your presentation object containers are stored. If they are stored in more than one location, list all of the paths separated with colons (:), for example:

/resources/containers:/dept123/priv-pres-obj- containers:/dept123/public-pres-obj-containers

9. Fill in any other fields that are appropriate. For example, if you use form definitions, fill in the **Location of form definitions** field.
10. Click **OK** to apply the settings and close the dialog.

---

## Creating an actual destination

The actual destination represents the physical output device. The Infoprint Color 130 Plus must be a PSF TCP/IP printer. Use the **Create Printer Wizard** in the Infoprint Manager Administration GUI to create an actual destination.

**Note:** Because you are dedicating an Infoprint server to your Infoprint Color 130 Plus, this procedure assumes that you have either just installed Infoprint Manager on this system or that you have created a new server on this machine. In either case, your Infoprint server would not contain any objects (logical destinations, queues, or actual destinations) yet. If you are planning to use an existing Infoprint server to send jobs to your Infoprint Color 130 Plus, you should delete all of the objects that currently exist in it before you start this procedure.

1. Start the Infoprint Manager Administration GUI.
2. Select **Printer** → **Create** → **PSF** → **TCP/IP**.
3. In the first panel of the Create Printer Wizard, do the following.
  - a. Type a name for the printer in the **Name** field.
  - b. Verify that the server is correct in the **Server** field.
  - c. Select **InfoprintColor130Plus** from the Model drop-down list.

**Note:** If that model is not shown, you must update Infoprint Manager to the current service level.
  - d. Type the TCP/IP address and port number for the printer in the correct fields.
  - e. Click **Next**.
4. In the second panel, type or select a name for the logical destination that will send jobs to this printer and click **Next**.
5. In the third panel, type or select a name for the queue that will submit jobs to the this destination and click **Next**.
6. On the rest of the panels, accept the default values that Infoprint Manager sets for AFP color printing by clicking **Next** and finally **Finish**.

**Note:** Refer to the worksheets found in "Creating and Managing Actual Destinations" in *IBM Infoprint Manager for AIX: Administrator's Guide* when providing the information as prompted by the wizard.

## Creating and configuring a logical destination

You create and configure the logical destination when you create the actual destination with the Create Printer wizard.

---

## Transforming color images

Color images are transformed automatically at the server when you submit the job to the printer. However, you can transform your images separately by running transforms from the AIX command line without printing the generated output prior to submitting the job. Jobs run more quickly if the images have already been transformed.

Infoprint Manager provides transform programs for most data streams, such as GIF, PS, and PDF. The transforms convert the incoming data stream into the AFP format. For example, to transform the file `mypicture` to AFP using the **gif2afp** transform, enter the following command:

```
gif2afp mypicture
```

For a list of the flags or options and values for each transform, refer to "Infoprint Object Attributes" in the *Infoprint Manager: Reference*.

**Note:** It is especially recommended that you transform TIFF, JPEG, and GIF images from the AIX command line.

## Chapter 3. Using and changing color and resource attributes

You need to decide which color and resource attributes you use or need to change when you submit your job. This chapter contains the following sections:

- “Using color attributes”
- “Using resource attributes” on page 9
- “Using the Infoprint Manager Administration GUI to change color and resource attributes” on page 10

The color and resource attribute-value pairs that are specific to the Infoprint Color 130 Plus include the following:

- **color-profile**
- **color-profiles-supported**
- **color-bits-per-plane**
- **color-bits-per-plane-supported**
- **color-rendering-intent**
- **color-toner-saver**
- **color-toner-saver-supported**
- **resource-context-presentation-object-container**
- **presentation-object-container-extraction-mode**

Refer to “Infoprint Object Attributes” in the *Infoprint Manager: Reference* for more information on these attributes.

---

### Using color attributes

The color attributes can be modified from the command line using the **pdset** command or in the Infoprint Manager Administration GUI. Refer to “Infoprint Object Attributes” in the *Infoprint Manager: Reference* for the correct command syntax when using the command line.

#### **color-profile**

Use this attribute to specify the color profile, if any, to be used by PostScript jobs. This attribute can be equal to:

- **SWOP**
- **Euroscale**
- **none**

The default value is **none**, which means that the color rendition will be dependent on the output device.

The title of this attribute in the Infoprint Manager Administration GUI is **Color profile**.

#### **color-profiles-supported**

Use this attribute to identify which color profiles can be used by the actual destination when printing a document. This attribute can be equal to one or more of the following:

- **SWOP**
- **Euroscale**
- **none**

The default values for the Infoprint Color 130 Plus are **SWOP**, **Euroscale**, and **none**. For all other actual destinations the default is equal to **none**.

The title of this attribute in the Infoprint Manager Administration GUI is **Color profiles allowed**.

## color-bits-per-plane

This attribute specifies whether the transform is to produce monochrome (FS10) or color images (FS42 or FS45). You can set this attribute equal to:

- **0-bits** (monochrome FS10)
- **1-bit** (color FS42)
- **8-bits** (color FS45)

The default for Infoprint Color 130 Plus is **8-bits**. For all other actual destinations, the default is **0-bits**.

**Note:** If the attribute is set to **1-bit** for a PostScript data stream it will fail.

The title of this attribute in the Infoprint Manager Administration GUI is **Color bits per plane**.

## color-bits-per-plane-supported

This attribute specifies the types of images supported on the actual destination when printing a document. This attribute can be equal to one or more of the following:

- **0-bits** (monochrome FS10)
- **1-bit** (color FS42)
- **8-bits** (color FS45)

The default values for Infoprint Color 130 Plus are:

- **0-bits** (monochrome FS10)
- **1-bit** (color FS42)
- **8-bits** (color FS45)

The title of this attribute in the Infoprint Manager Administration GUI is **Color bits per plane allowed**.

## color-rendering-intent

While the Infoprint Color 130 Plus produces vibrant full-color images, including images that contain gradients and shading, it is not able to reproduce every shade of every color. The **color-rendering-intent** attribute determines what Infoprint Manager does when it encounters a shade in a PostScript image that the Infoprint Color 130 Plus cannot reproduce exactly.

There are two possible values for **color-rendering-intent**:

### Relative

When Infoprint Manager encounters a color that Infoprint Color 130 Plus cannot reproduce, it substitutes the closest color value that it *can* reproduce.

### **Perceptual**

When Infoprint Manager encounters a color that Infoprint Color 130 Plus cannot reproduce, it adjusts all of the colors in the image so that they maintain their color relationships to each other. The result is an image that is pleasing to the eye, but that may not look exactly like the original image.

The default value is **Relative**.

You can set the *color rendering intent* value on a print job, a default document, or on an actual destination using either the command line or the Infoprint Manager Administration GUI. The title of this attribute in the Infoprint Manager Administration GUI is **Color rendering intent**.

### **color-toner-saver**

When cyan, magenta, and yellow are combined in a certain proportion, the result approximates black. When the color-toner-saver attribute is set to **yes**, the proportion of cyan, magenta, and yellow are reduced and substituted with black toner, which reduces the amount of color toner used. You can enter the values:

- **true** or **yes**
- **false** or **no**

The default value is **false**, meaning that you do not want to use this attribute.

The title of this attribute in the Infoprint Manager Administration GUI is **Color toner saver**.

### **color-toner-saver-supported**

This attribute identifies the values that can be specified for color-toner-saver.

The title of this attribute in the Infoprint Manager Administration GUI is **Color toner saver allowed**.

---

## **Using resource attributes**

The resource attributes can be modified from the command line using the **pdset** command or in the Infoprint Manager Administration GUI. Refer to "Infoprint Object Attributes" in the *Infoprint Manager: Reference* for the correct command syntax when using the command line.

### **resource-context-presentation-object-container**

This attribute adds paths to the directory that Infoprint searches for presentation object containers (also called data object resources), such as EPS or PDF pages, for the actual destination.

The title of this attribute in the Infoprint Manager Administration GUI is **Location of presentation object containers**.

### **presentation-object-container-extraction-mode**

This attribute specifies the degree of optimization attempted by color transforms. The possible values are:

- **ignore** (generates the document without resources by ignoring presentation object containers)
- **inline** (identifies and extracts the resources within a document for use)

The default value is **ignore**.

**Note:** Inline transforms always use an extraction mode of **ignore**.

The title of this attribute in the Infoprint Manager Administration GUI is **Presentation object container extraction mode**.

---

## Using the Infoprint Manager Administration GUI to change color and resource attributes

The Infoprint Manager Administration GUI is an interface for managing Infoprint Manager jobs, queues, logical destinations, and actual destinations, such as printers. It runs on multiple platforms, so you can use it either from a Windows workstation, an AIX workstation, or directly on the AIX Infoprint Manager server console.

From the server or from remote work stations, operators can use this interface to monitor all jobs and printers in the system and to route jobs appropriately to increase enterprise-wide printing productivity. With the Infoprint Manager Administration GUI, you can change the color and resource attributes.

### Starting the Infoprint Manager Administration GUI

To open the Infoprint Manager Administration GUI from the Windows desktop, double-click any of the **Infoprint Administration** icons.

You can start the Infoprint Manager Administration GUI from an aixterm window. For example, to open an advanced view, type `ipguiadvadm` at the AIX command line. You can also use the basic (`ipguibasicadm`) or the distributed (`ipguidistadm`) view.

### Changing the attributes

Now that you have opened one of the views of the Administration Infoprint GUI, you can change the attributes in the actual destination. Follow this procedure to set the attributes using the GUI.

1. Click your Infoprint Color 130 Plus actual destination.
2. Select **Options** → **Customize**.

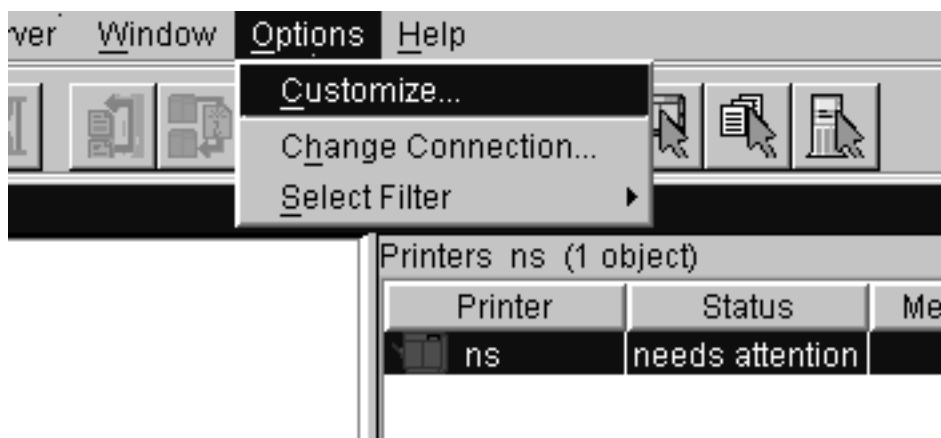


Figure 1. Options menu



3. In the **Customize** dialog, click the **Printer** tab.
4. In the **Action** column, find **Change Tuning**, **Change AFP Resources**, and **Change AFP Color**, and select the check boxes in the **Menu** column next to them.

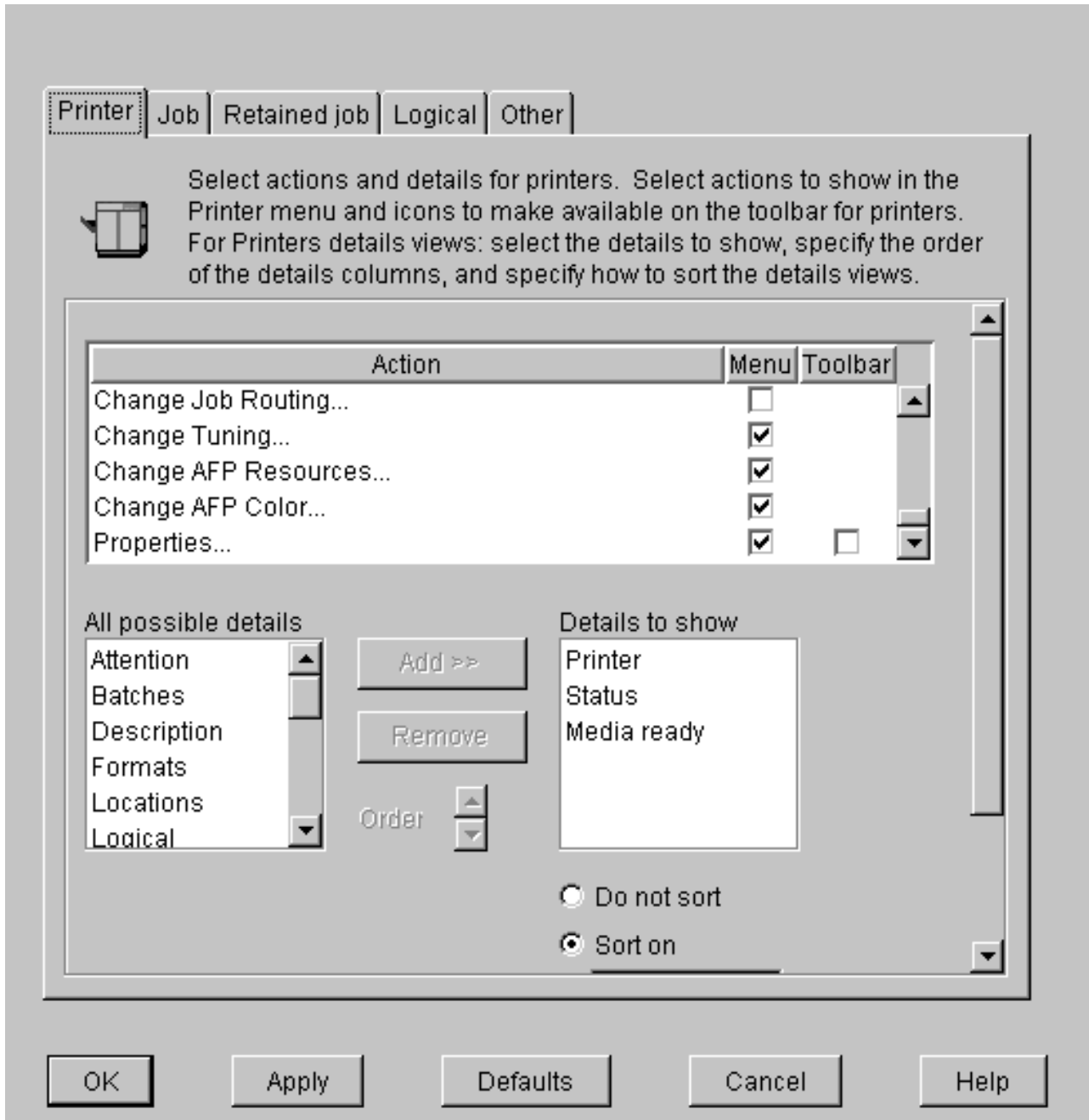


Figure 2. Printer menu

This step adds these tasks to the **Printer** menu. If you want to add other tasks to the **Printer** menu or to any other menu, you can do it now or you can wait until later.

5. Click **OK** to apply the settings and close the dialog.

6. Select **Printer → Change AFP Resources** to open the **Change AFP Resources** dialog. These fields allow you to specify where resources, such as fonts and presentation object containers, are located. Refer to “Identifying AFP resources” on page 4.
7. In the **Change AFP Resources** dialog, find the **Location of presentation object containers** field and type the path where your presentation object containers are stored. If they are stored in more than one location, list all of the paths separated with colons (:), for example:  
`/resources/containers:/dept123/priv-pres-obj- containers:/dept123/public-pres-obj-containers`

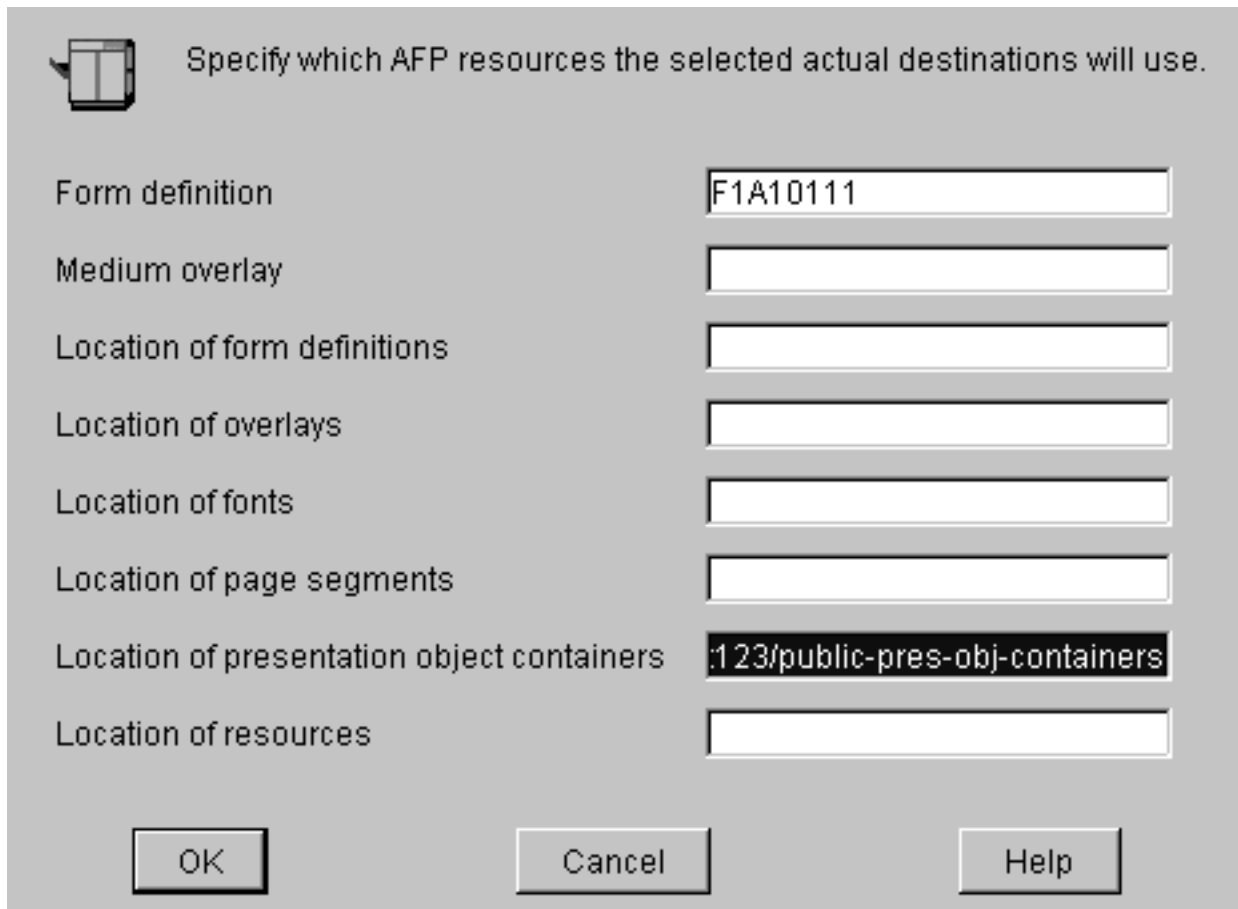


Figure 3. Change AFP Resources dialog

8. Fill in any other fields that are appropriate. For example, if you use form definitions, fill in the **Location of form definitions** field.
9. Click **OK** to apply the settings and close the dialog.
10. Select **Printer → Change AFP Color** to open the **Change AFP Color** dialog. These fields allow you to modify the color attributes in your job. Refer to “Using color attributes” on page 7 for more information.

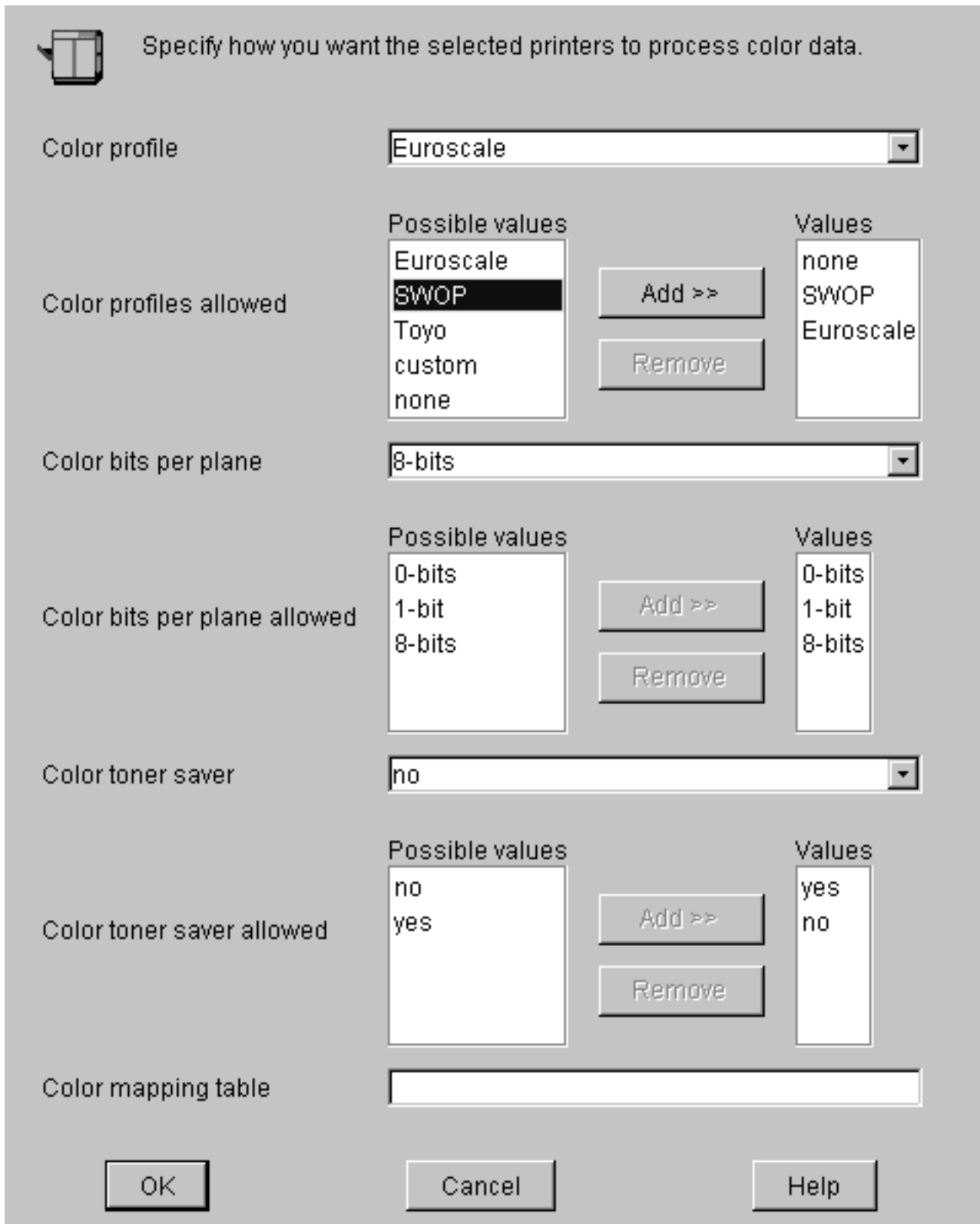


Figure 4. Change AFP Color dialog

11. Click **OK** to apply the settings and close the dialog.

12. Select **Printer → Change Tuning** to open the **Change Tuning** dialog. These fields allow you to modify resource attributes in your job. Refer to “Using resource attributes” on page 9 for more information.

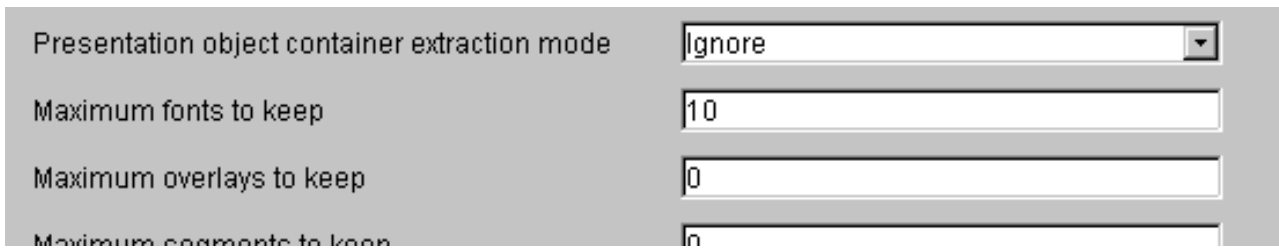


Figure 5. Change Tuning dialog

13. Click **OK** to apply the settings and close the dialog.

## Chapter 4. Sending an AFP job to the printer using the AIX command line

In this example, you have created a document using an AFP statement generator. This job contains color images that you decide to transform offline. You now want to submit that document through Infoprint Manager to the Infoprint Color 130 Plus using the command line.

---

### Setting up assumptions

This scenario assumes that you have completed the following tasks:

- Built an AFP data stream
- Identified location of AFP resources
- Created an actual destination for the printer
- Transformed color images

See “Chapter 2. Setting up” on page 3 for more information.

---

### Using AIX commands

On any AIX system, the Infoprint AIX client allows authorized users to use the following Infoprint commands:

- **pdls**  
Lists selected attribute values for a job, destination, or other Infoprint object.
- **pdpr**  
Submits a job to a logical destination.
- **pdq**  
Queries the status of selected jobs, of all jobs submitted to a logical destination, or of all jobs assigned to an actual destination.

Refer to *Infoprint Manager: Reference* for a complete list of flags and attributes to use with these commands.

---

### Submitting the job

Complete the following steps to submit the job.

1. To determine whether the logical destination IC130P-1d is ready to receive jobs, type:

```
pdls -c destination -r "enabled" IC130P-1d
```

You will see the following message if the logical destination is enabled:  
enabled=true

2. To submit the file MyJob to the logical destination IC130P-1d and request two-sided printing and the **color-toner-saver** attribute, type:

```
pdpr -d IC130-1d -x "sides=2 color-toner-saver=true" MyJob
```

**Note:** The page size and orientation that is specified in the job and in Infoprint Manager must match that specified at the AFCCU. Otherwise, the job will print on the page size and with the orientation specified at the AFCCU.

3. To query all the jobs that you submitted to logical destination IC130P-1d, type:  
pdq -d IC130P-1d

In the previous examples *-d* refers to the logical destination and *-x* refers to the attribute string that contains the attribute-value pairs you want to include.

You can use the following attributes from the AIX command line or you can change them in the Infoprint Manager Administration GUI:

- **color-bits-per-plane**
- **color-bits-per-plane-supported**
- **color-rendering-intent**
- **color-toner-saver**
- **color-toner-saver-supported**
- **resource-context-presentation-object-container**

Refer to “Chapter 3. Using and changing color and resource attributes” on page 7 for details on when and how to use these attributes.

## Chapter 5. Sending an AFP job with color images to the printer using Infoprint Submit

You have created an AFP document using a page layout application and are using Infoprint Submit to send it to the Infoprint Color 130 Plus.

---

### Setting up assumptions

This scenario assumes that you have completed the following tasks:

- Built a data stream
- Set color RIP as default, for PostScript data streams
- Created an actual destination
- Installed Infoprint Submit

See “Chapter 2. Setting up” on page 3 for more information.

---

### Submitting the job

When using Infoprint Submit to create the job ticket, you must consider a number of things to prepare a job for printing. Primarily, however, during this phase of the process, you will identify and organize the printable files and other resources that make up the job. As you complete the job ticket, Infoprint Submit provides a format in which you can specify the details necessary to process a job effectively. You generate the printable files that you submit to Infoprint Manager file by file from the application that you use for authoring.

**Note:** Use the **Help** menu from the Job Ticket window or the **Help** button on the dialogs to guide you.

### Creating a new job ticket

In this example, you will create a new job ticket named MyJob. You adjust color attributes and then submit the job.

**Note:** When you use Infoprint Submit to send a job to the printer, you do not need to have previously created a form definition. If you have a form definition it overrides the attributes you specify in Infoprint Submit.

1. Start Infoprint Submit. The **Job Ticket** window displays.
2. Fill in all the fields with appropriate information.
3. Insert the files into your job ticket that you want to include in the job. Click **Help → Help Topics...** if you have questions.
  - To insert new files into the document, click **Item → Insert File** on the menu bar. The Select files dialog box displays. Select the files you want to add to the document from the Select files dialog box and click **Select**.
4. Specify the layout you want in the **Layout** tab.
5. Select Infoprint Color 130 Plus from the **Printer type** drop-down list on the **Print** tab.

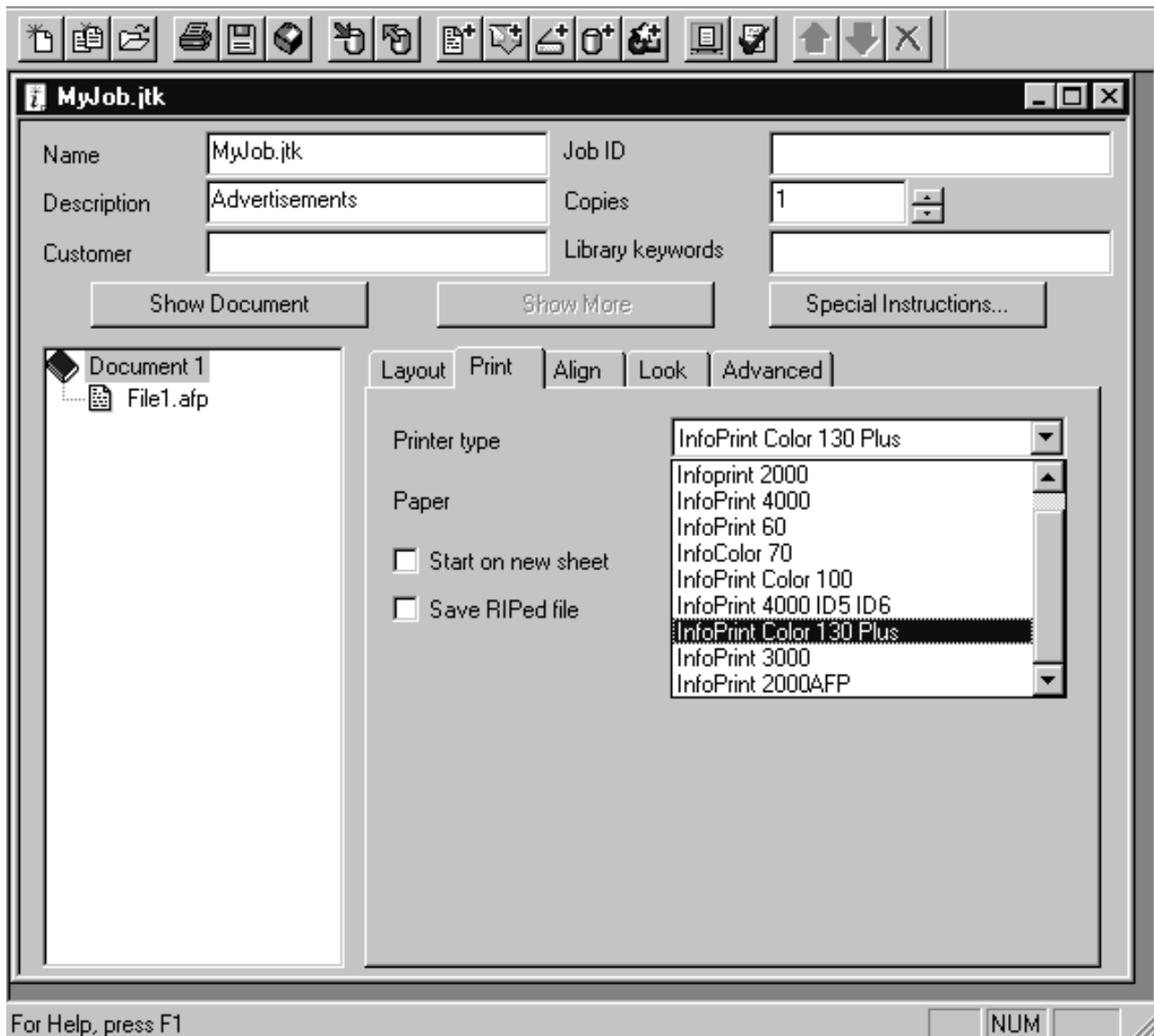


Figure 6. Print tab

6. Specify page alignment on the **Align** tab.

**Note:** You must specify the same page size and orientation at the AFCCU as you do in the job, otherwise the page size and orientation specified in the AFCCU will override that specified in the job.

7. Choose the values for the color attributes on the **Look** tab. You can use the following attributes in Infoprint Submit:
  - **Color Profile**
  - **Color Bits Per Plane**
  - **Color Toner Saver**



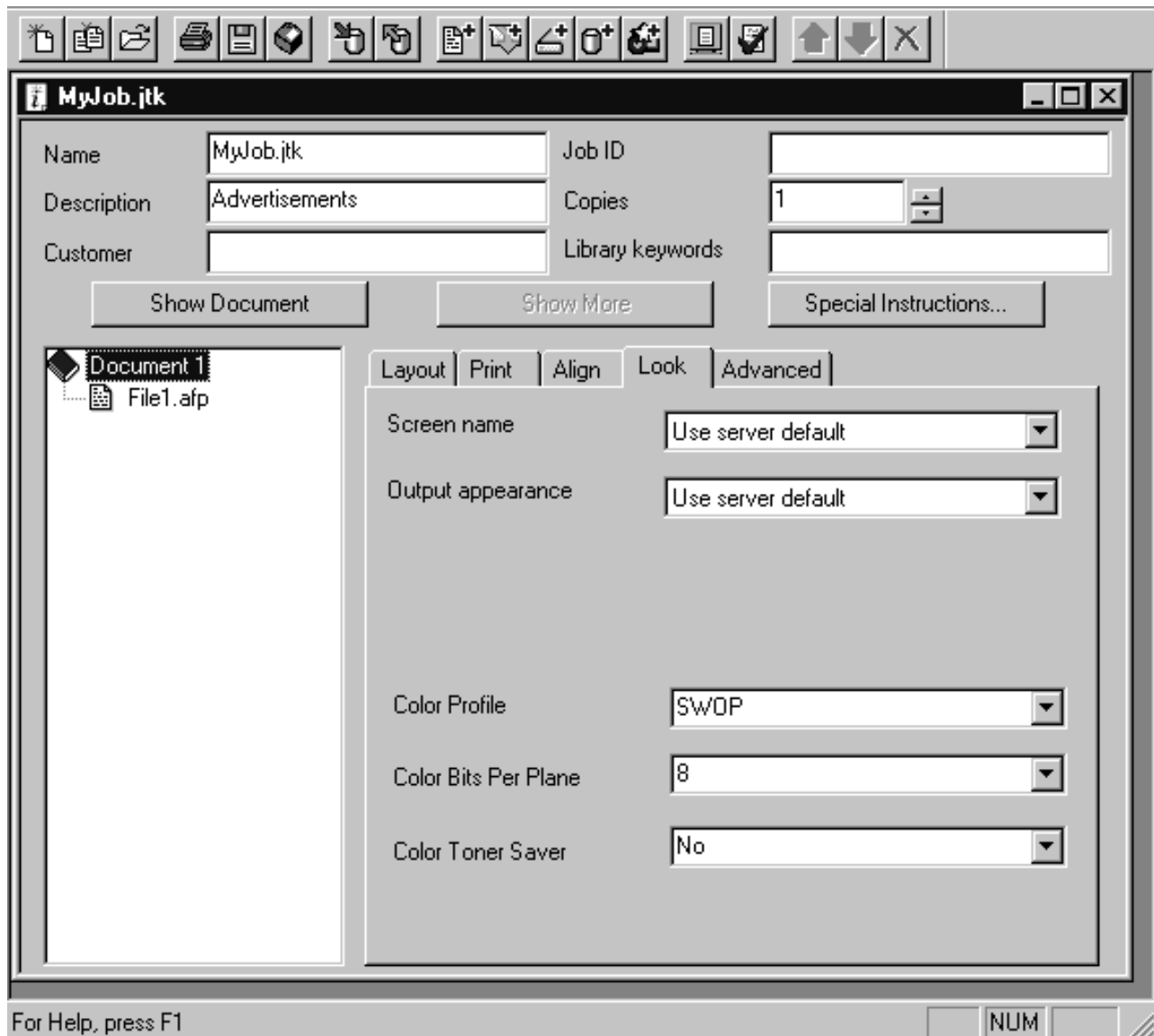


Figure 7. Look tab

Refer to “Chapter 3. Using and changing color and resource attributes” on page 7 for details on when and how to use these attributes.

8. Click the **Advanced** tab, find **RIP for**, and select **Infoprint Color 130 Plus** from the drop-down list.

**Note:** If **Infoprint Color 130 Plus** does not appear in the drop-down list upgrade to the most recent service level.

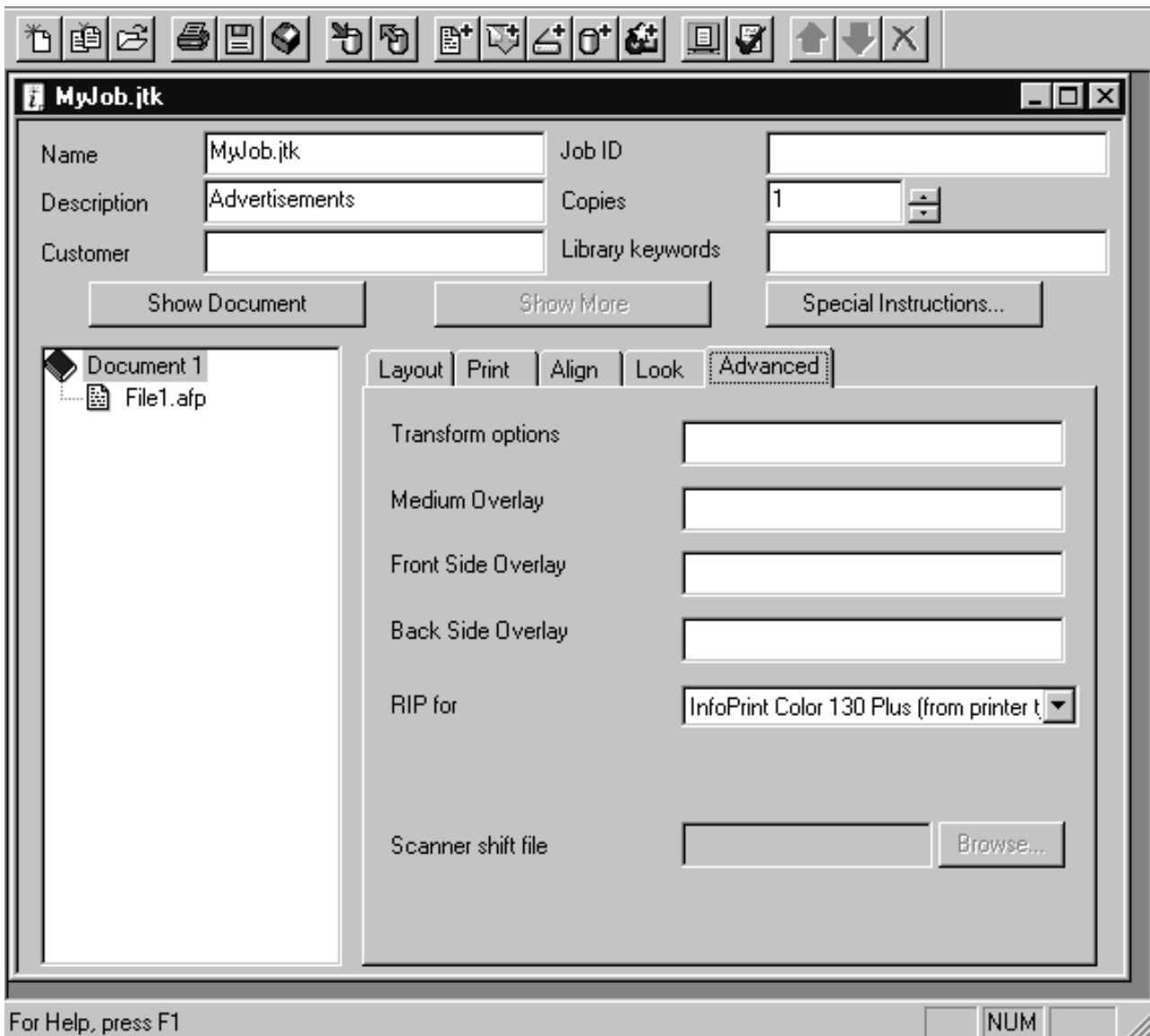


Figure 8. Advanced tab

9. Save the job ticket by clicking **Ticket → Save As...**
10. Submit the job by clicking **Ticket → Submit Job.**

Refer to "Using Infoprint Submit to Process a Job" in the *IBM Infoprint Manager for AIX: User's and Operator's Guide* for more information on using Submit.

## Chapter 6. Sending a job using Download for OS/390

You have created an AFP document using a page layout application and are using Download for OS/390 to send it to the Infoprint Color 130 Plus.

Download for OS/390 automatically transmits data from the job entry subsystem (JES) spool to remote systems using TCP/IP. This eliminates the need for manual print file transfer using File Transfer Protocol. A cooperating print server running on a remote system receives the data sets for printing with Infoprint Manager for AIX. For most jobs, you can use the same job control language (JCL) that you would use for non-AFP printers, changing only the MVS routing information to direct your job to the Infoprint Color 130 Plus.

**Note:** You can use IBM's Page Printer Formatting Aid (PPFA) to create form definitions and page definitions when creating the data stream. Refer to <http://www.ibm.com/printers/R5PSC.NSF/Web/ppfa> for information on how to use PPFA.

If you are using Download for OS/390 to submit jobs to the printer, refer to "Using JCL for Advanced Function Presentation" and "Printing Tasks and Examples" in the *Print Services Facility for OS/390: User's Guide* for specific printing tasks and examples. You can also refer to *Print Services Facility for OS/390: Download for OS/390* for more information.



## Notices

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## **EuroReady**

Infoprint Manager is capable of processing data containing the euro sign. Font character sets and code pages that contain and map the euro sign consistently with the application must be present either in a host library or in the printer. AFP fonts that support the euro sign are included in the AFP Font Collection (Program Number 5648-B33).

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## **Year 2000 Ready**

Infoprint Manager is Year 2000 ready. When used in accordance with its associated documentation, Infoprint Manager is capable of correctly processing, providing, and receiving date data within and between the twentieth and twenty-first centuries, provided all other products used with Infoprint Manager (including software, hardware, and firmware) properly exchange accurate date data with it.

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