



PowerRIP 2000 ***User's Guide***

Professional Proofing Software ***for Ink Jet Printers***

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Chapter 1 - Introduction

PowerRIP 2000 turns your ink jet printer into a PostScript® Level 3 compatible printer. PowerRIP 2000, a software raster image processor (RIP), reads and interprets PostScript Level 3 and allows your printer to print color raster images. PostScript is the standard for high quality graphic output. All elements of a document, including text, graphics, and images are described by the PostScript code. When you print from an application, such as PageMaker®, PowerRIP processes the PostScript code and sends the processed image to the printer.

PowerRIP 2000 Features					
<i>Note: The available Features are dependent on your printer and version of PowerRIP 2000. Not all Features are available on all printers or on all revisions of PowerRIP 2000.</i>					
Features	Lite	Professional	Platinum	LF	LF Platinum
PostScript Level 3 compatible - the professional world printing standard	✓	✓	✓	✓	✓
Color Sync support	✓	✓	✓	✓	✓
Accepts User Defined ICC Profiles		✓	✓	✓	✓
ICC profiles for the printers inks and papers as well as iProof Systems' PressProof stock, at all available resolutions	✓	✓	✓	✓	✓
User definable spot colors and color calibration controls		✓	✓	✓	✓
Make Composites from Separations		✓	✓	✓	✓
DCS1 and DCS2 support	✓	✓	✓	✓	✓
Prints Acrobat PDF and EPS files by dropping into printer queue.	✓	✓	✓	✓	✓
Override printing options embedded in PostScript files		✓	✓	✓	✓
Network ready, Server/Client and cross-platform configurable		✓	✓	✓	✓
SWOP, Euro, and Toyo color simulation for more accurate offset press proof color matching	✓	✓	✓	✓	✓
PowerRIP PDF	✓	✓	✓	✓	✓
PowerRIP TIFF				✓	
✓					
RGB Warning	✓	✓	✓	✓	✓
Print to multiple printers		✓	✓	✓	✓
Pantone support		✓	✓	✓	✓

Where to Get Help

For helpful hints and troubleshooting guidelines, see Chapter 11. If you need further assistance, technical support is available from iProof Systems. When calling for technical assistance, be ready to identify your system and its configuration, the serial number of PowerRIP 2000, and a description of the problems you are encountering. It is highly recommended that you enable the Log Messages option when creating a PowerRIP printer. The entries in the log will help the support staff identify PostScript error messages.

iProof Systems Technical Support

iProof Systems Technical Support is available through phone, fax, mail, e-mail and the Internet. Hours of operation are 9:00 am to 6:00 pm EST (Monday through Friday). Your free phone support is limited to 30 days from your first support call. After the 30 days have expired a service charge of \$2.50 (U.S. Dollars) per minute will be applied (billed to your credit card). Visa, MasterCard, and American Express are accepted. We suggest using iProof's free e-mail support to get a prompt answer to any questions you may have.

iProof Systems
2401 West Eau Gallie Blvd, Suite 4
Melbourne, FL 32935 USA
Telephone Support: (321) 751-2445
Fax Support: (321) 751-2449

Electronic Support Services

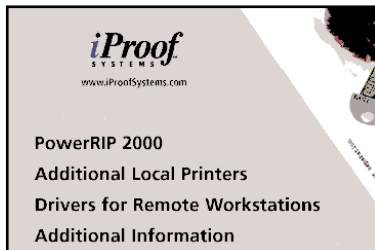
- **World Wide Web**
iProof Systems' World Wide Web site is <http://www.iproofsystems.com>. iProof Systems' home page includes FAQs (Frequently Asked Questions), new product announcements, Error Messages, Read Me files, and other helpful information.
- **iProof Systems E-Mail Support**
You can also send e-mail to iProof Systems at Support@iProofSystems.com. Please include your name, PowerRIP 2000 serial number, platform, and printer model so that iProof Systems technical support representatives can e-mail a response to your question.

Chapter 2 - Installing PowerRIP 2000

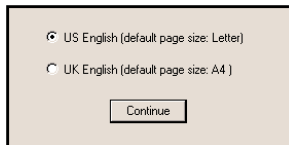
Installing PowerRIP 2000 Software (Server/Standalone)

Note: The installation procedure and dialogs displayed are predicated on the printer you are installing, revision of PowerRIP 2000, and your Operating System. Not all features are available on all printers or on all revisions of PowerRIP 2000.

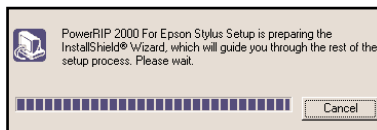
1. Turn on your computer. If it is already on, check the TaskBar to make sure that you have no applications running. If you do, exit them.
2. Insert the PowerRIP 2000 CD into your CD-ROM drive. If auto-play is enabled, the **PowerRIP 2000 Install splash screen** will appear. If the splash screen does not appear, open My Computer on your Windows Desktop, then open the CD-ROM. Double-click on the file named "Setup.exe." Click once on **PowerRIP 2000**.



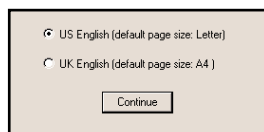
3. The **Choose Setup Language** dialog will display. This dialog defaults to English. Select your language. Click **OK**.



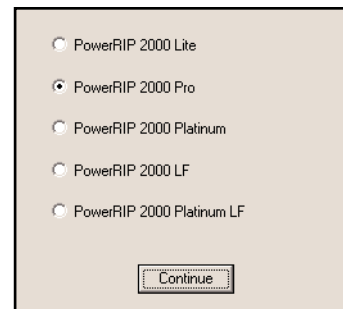
4. The **Install Shield Wizard** dialog will display momentarily.



5. The **Select Location** dialog will display. This dialog defaults to US English (default page size Letter). Click **Continue**.



6. The **Please Select Version** dialog will display.

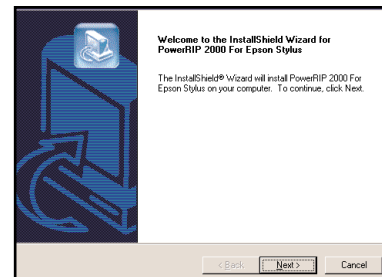


Select the revision of PowerRIP 2000 that you wish to install.

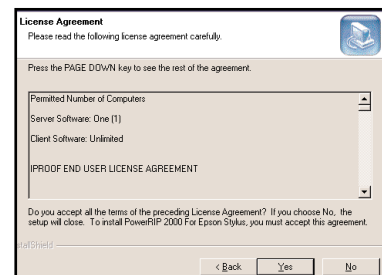
Note: The gold seal on the PowerRIP 2000 CD sleeve will tell you which revision on PowerRIP 2000 you have.

Click **Continue**.

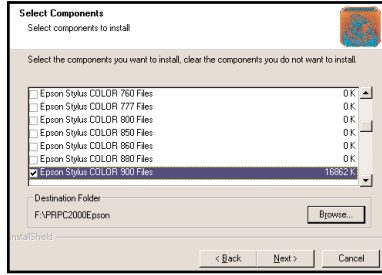
7. The **Welcome** dialog will display. Click **Next**.



8. The **Software License Agreement** dialog will display. Click **Yes**.

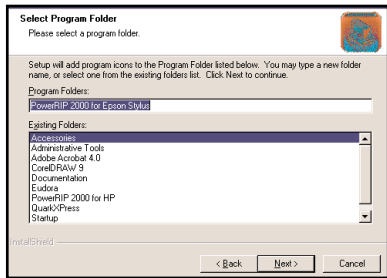
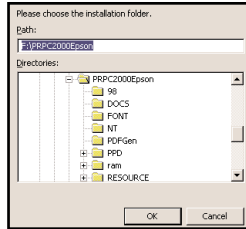


9. The **Select Components** dialog will display. You must select the components (printers) you wish to install.

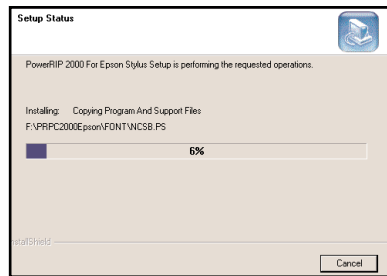


If you wish to change the destination folder click **Browse**. The **Choose Folder** dialog will display. Type the correct path. Click **OK**. The **Select Component** dialog will redisplay. Click **Next**.

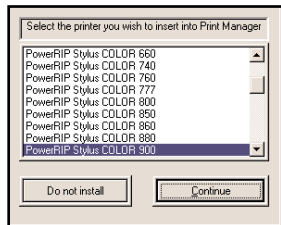
- The **Select Program Folder** dialog will display. Click **Next**.



- The **PowerRIP 2000 Setup** dialog will display and PowerRIP 2000 will start installing. *Note: There could be a slight pause on the progress bar while the software is installing.*



- The **Print Manager Setup** dialog will display. The printer you selected in the Select Component dialog should be highlighted. Click **Continue**.



- A dialog will display telling you the printer has been installed. Click **OK**.
- A dialog will display telling you that PowerPDF has been installed. Click **OK**.
- The **Setup Complete** dialog will display. Click **Finish**.

You have completed the PowerRIP 2000 software installation. You must now validate your PowerRIP 2000. If you do not validate PowerRIP 2000 *PowerRIP* will print across the page. Continue with validating PowerRIP 2000 (page 10).

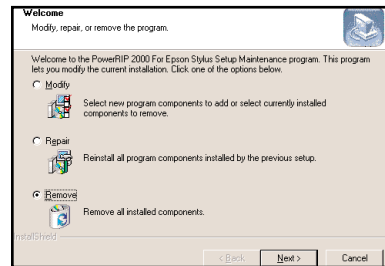
Modify, Remove or Repair PowerRIP 2000

Modify

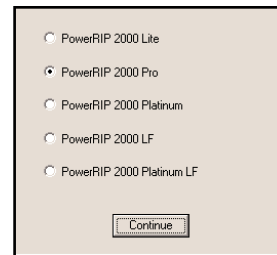
Modify should be used to:

- Add additional new printers (program components) to PowerRIP 2000.
- Remove previously installed printers (program components) from PowerRIP 2000.

- Follow steps 1,2,3 and 4 page 6, Installing PowerRIP 2000.
- The **Modify, repair, or remove the program** dialog will display. Select **Modify**. Click **Next**.



- The **Please Select Version** dialog will display.

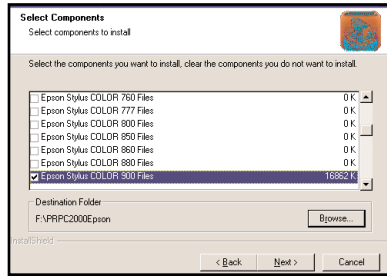


Select the revision of PowerRIP 2000 that you wish to install.

Note: The gold seal on the PowerRIP 2000 CD sleeve will tell you which revision of PowerRIP 2000 you have.

Click **Continue**.

4. The **Select Components** dialog will display.



If you wish to add an additional new printer to the PowerRIP 2000, but not remove previous printer(s), make sure you select both the new and previous printer(s) in the Select Components dialog.

If you have more than one printer installed and wish to remove one of the printers, select the printer that you want to keep and deselect the printer you wish to remove. Click **Next**.

5. After the components have been added or deleted the **Maintenance Complete** dialog will display. Click **Finish**. The PowerRIP 2000 splash screen will redisplay. Click **Exit**.

Repair

Repair should be used:

- If you wish to reinstall all the program components previously installed.

1. Follow steps 1,2,3 and 4 page 6, Installing PowerRIP 2000.
2. The **Modify, repair, or remove the program** dialog will display. Select **Repair**. Click **Next**.
3. The **Select Location** dialog will display. Click **Continue**.
4. The **Please Select Version** dialog will display. Select the revision of PowerRIP 2000 that you wish to install.

Note: The gold seal on the PowerRIP 2000 CD sleeve will tell you which revision of PowerRIP 2000 you have.

Click **Continue**.

5. The **PowerRIP 2000 Setup** dialog will display and PowerRIP will start reinstalling.
6. The **Print Manager** dialog will display. Select

your printer and click **Continue**. A dialog will display asking you if you wish to update the driver for each printer you have installed. Click **Yes** and/or **OK**. The PowerRIP Setup dialog will display. Click **Finish**.

Remove

Remove should be used to:

- Remove all installed PowerRIP 2000 components (printers).
- Remove a previous revision of PowerRIP 2000 before installing a new revision.

Note: If you have customized files such as ICC profiles or calibration curves saved in the PRPC2000 folder, you should move them to another folder for safe keeping. If they are not moved they will be removed along with PowerRIP 2000 during the remove function.

1. Follow steps 1,2,3 and 4 page 6, Installing PowerRIP 2000.
2. The **Modify, repair, or remove the program** dialog will display. Select **Repair**. Click **Next**.
3. The **Confirm File Deletion** dialog will display. It will ask you *Do you want to completely remove the selected application and all of its components?* Click **OK**.
4. After the components have been uninstalled the **Maintenance Complete** dialog will display. Click **Finish**. The PowerRIP 2000 splash screen will redisplay. Click **Exit**.

Additional Local Printers

If you installed components for more than one printer on the initial install of PowerRIP 2000, the Print Manager will install only one of the printer drivers needed. You will have to use Additional Local Printers to insert additional printers in the Print Manager.

1. Insert the PowerRIP 2000 CD into your CD-ROM drive. The splash screen will appear. Click **Additional Local Printer**. The **PowerRIP Print Manager Setup** dialog will display.
2. Highlight the printer you wish to install. Click **Continue**. A dialog will display telling you that the driver has been installed. Click **OK**. Go to **Start>Settings>Printers** and you will see the driver you just installed.

Installing PowerRIP 2000 Software (Client)

Drivers for Remote Workstations

Drivers for Remote Workstations gives you the ability to create PowerRIP 2000 Remote Printer Queues for workstations on the network. If you are on a large network, Remote Printer Queues will give you the ability to expedite your workflow, faster throughput speeds, and the ability to print to more than one printer on the network. Using Drivers for Remote Workstations you will be creating a PowerRIP 2000 server/client relationship.

Select one of your workstations to be your PowerRIP 2000 server. This workstation should have enough RAM and free hard drive space to meet the printing needs for all the workstations on the network. As an example; if you have 10 workstations on the network, all sending files to the PowerRIP 2000 server, you will need enough free hard drive space to accommodate the potential of 10 files, from 10 workstations sitting in the queue waiting for their turn to print.

Server Workstation

1. Install the PowerRIP 2000 software following the Server/Standalone directions on page 6.
2. Validate PowerRIP 2000 following the directions on page 10.
Note: Only the PowerRIP 2000 server is validated. You do not validate the client workstations.
3. Share the printer. Go to **Start>Settings>Printers**. Highlight your printer and then go **File>Properties**. In the Properties dialog go to the **Sharing** tab. Select **Shared As** or **Shared** depending on the operating system you are using. Close the properties dialog. Your printer is now available over the network.

Client Workstations

Note: The following install instructions should be done on each client workstation on the network that is going to print to PowerRIP 2000.

1. Turn on your computer. If it is already on, check the TaskBar to make sure that you have no applications running. If you do, exit them.
2. Insert the PowerRIP 2000 CD into your CD-ROM drive. If auto-play is enabled, the **PowerRIP 2000 Install** splash screen will appear. If the splash screen does not appear, open My Computer on your Windows Desktop, then open the CD-ROM. Double click on the file named "Setup.exe." Click on **Drivers for Remote Workstations**.

3. The **Connect to Remote PowerRIP** dialog will display. Highlight the **Print Server** you wish to print to in the Print Server portion of the dialog.
4. Select the **PowerRIP** in the Shared Printers portion of the dialog. Click **Connect**.
5. The **Select Printer Type** dialog will display. Select the driver you wish to load. Click **Continue**.
6. When finished **Printer Connection Added** will display. Click **OK**. Click **Done**. Go to **Start>Settings>Printers**. You will see the remote printer queue that you have just created. It will say *PowerRIP (name of the printer) on (name of the server)*.

On your client workstation you will create your files selecting the Remote Queue name in the Page Setup. When you print, the file will process, spool to the server and print. If PowerRIP 2000 is installed on the startup drive, on the server, and has not been launched, the first file sent to the server will launch PowerRIP 2000. If PowerRIP 2000 is not installed on the startup drive then you will have to manually launch.

If you have more than one printer on the network and want to make a Remote Printer Queue for each printer, one printer can use PowerRIP PowerRIP Port. The second printer should use LPT1, and so on.

Print Manager Queue Scanners

The Print Manager Queue Scanners give you the ability to scan the queues within PowerRIP 2000 and gives you the ability to customize your Remote Queues to meet your specific printing needs.

Note: It is assumed that PowerRIP 2000 is launched and maximized and that PowerRIP 2000 is on the screen.

1. Go to **Inputs>Print Manager Queue Scanners**. The **Configure Print Manager Scanners** dialog will display. Click **Scan**. The network will be scanned and will display on the printer queues on the left side of the dialog in the **Print Manager Queues** section of the dialog. Highlight the printer queue you wish to customize.

Using **Use Calibration** and **Specify Settings** you have the ability to customize your printer queue for your specific needs. (For calibration directions see Chapter 7. For directions on Specify Settings see Chapter 10.)

Uninstalling PowerRIP 2000

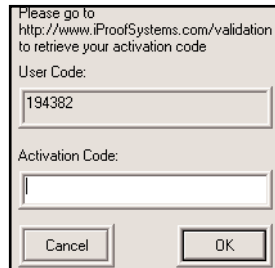
If you wish to remove a previously installed revision of PowerRIP 2000 and replace it with a new revision, you should use Uninstall. Uninstall will retain the integrity of your validation while removing the previous revisions components.

Go to **Start>Programs>PowerRIP 2000 Epson>Uninstall**. the Install Shield Wizard will display momentarily. Then the following warning will display. **This will remove PowerRIP 2000 Epson from your computer. Do you wish to proceed?** Click **OK**. When finished removing the following message will display. **PowerRIP 2000 Epson has been successfully uninstalled from your machine.** Click **OK**.

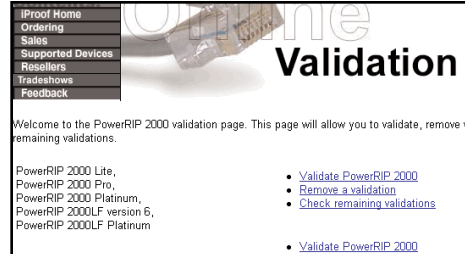
Validating PowerRIP 2000

Before using PowerRIP 2000 you must validate your copy of the software on your standalone or server workstation. If you do not validate your copy of PowerRIP 2000 *PowerRIP* or *Demo* will print across your output. You do not need to validate the client workstation. Follow the directions below to validate your PowerRIP 2000 software.

1. Got to **Start>Programs >PowerRIP 2000** to launch PowerRIP 2000.
2. Click **PowerRIP 2000** on the TaskBar to maximize the PowerRIP 2000 Control Panel.
3. Pull down the **File** menu and select **Install Validation**. The **PowerRIP 2000 Validation** dialog will display.
4. Write down your unique **User Code** as it appears in the dialog similar to this dialog.
5. You will also need your **Product Code** which can be found on the Product ID card inside the software package.
6. To obtain your **Activation Code**, launch your web browser and enter **http://www.iproofsystem.com**. Click on Product Registration. The Online Registration and Validation page will display. Fill out your registration information and then click **Submit Form**.



7. The PowerRIP 2000 Online Validation web page will display. Click **Validate PowerRIP 2000**.



8. The Validation page will appear. Enter your **Product Code** and **User Code** then click **Submit**.
9. Your **Activation Code** will appear on the next screen. Write down that code and quit your browser.
10. Enter the **Validation Code** in the PowerRIP 2000 Validation dialog Activation box and click **OK**.

PowerRIP 2000 is now Validated. If you pull down the PowerRIP 2000 File menu you will note that Install Validation is now grayed out and Remove Validation is active.

Note: The Install Validation process allows up to five validations. When you install PowerRIP 2000 for the first time, and Install Validation the number of available validations will be reset to four. When you Remove Validation, the counter is reset back to five. There is no limit to the amount of times you may Install Validation, providing you remove validation first. You may also check your remaining validations on the iProofSystems validation web page

If you do not remember to put your validation back in your WEB account when you do a remove validation you will loose that validation. If you loose all 5 validations you will have to call the iProof System sales department for additional validations. There will be a charge for the additional validations.

Remove Validation

You should Remove Validation before reformatting your hard drive, upgrading your operating system, or upgrading to a newer computer.

To Remove Validation follow the steps below:

1. Launch PowerRIP 2000 and maximize PowerRIP 2000.
2. Pull down the File menu and select **Remove Validation**.

3. You will get a warning message that removing validation will result in *PowerRIP* being printed on all further output. Click **OK**.
4. You will get a message which will include your invalidation (remove) code. Write down your invalidation (Remove) code.
5. Launch your web browser and enter:
http://www.iproofsystems.com

Click on Product Registration. The Online Registration and Validation page will display. Fill out your registration form and then click **Submit Form**. Click **Remove a Validation**. Enter your Product Code and your Invalidation/Remove code. Click **Submit**. A dialog will display that confirms that you have reset your counter back to 5. It should be noted that the counter will be incremented by 1. Thus if you have used 1 validation it will be incremented to 5. If you have used 3 validations it would be incremented to 4 and so on.

Testing PowerRIP 2000

Now that PowerRIP 2000 has been installed, and validated, you can print a sample pre-made PostScript file to test the system. This test will only verify that the PowerRIP 2000 will process and send PostScript jobs to the printer. It does not test applications sending jobs to the PowerRIP 2000 queue. Follow the steps below.

1. Launch PowerRIP 2000. Maximize PowerRIP 2000 to open the Main Control dialog. Go to **File>Print PostScript File**. The **Open** dialog will display.
2. Navigate to the PowerRIP 2000 folder on your hard drive. Open the folder.
3. Highlight **Train.ps**. Click **Open**.
4. **The Configure Document Specs** dialog will display. Make sure the proper printer is selected in the pull-down menu under Destination Device, and the proper port is also selected. Click on the **Use Document Default Settings** button, then click **OK**. PowerRIP 2000 will start processing the job and send it to the printer queue BGXXx and then to the printer.

Chapter 3 - Printing to PowerRIP 2000

Printing to PowerRIP 2000 from most Windows applications is simple. Select the PowerRIP 2000 printer in the print dialog of your applications, select settings for resolution, paper type, etc., and click **Print**. The application builds the PostScript file in the directory that the PowerRIP 2000 printer specifies. PowerRIP 2000 processes that file and then sends the raster image data to the queue printer “BGXXx”, which in turn sends it through the corresponding LPT, network or similar port.


This section will show you the *basics* of printing to PowerRIP 2000. For an in-depth discussion of printing from applications such as QuarkXPress, PageMaker etc., refer to the Read Mes on the iProof Systems web site and/or on your PowerRIP 2000 CD. These files are all in Acrobat PDF format. You must have Acrobat Reader installed on your computer to view these files. For this discussion WordPad will be used since it is generally found on most Windows systems.

Printing from stand-alone workstation running Windows 2000

Note: It is assumed that a WordPad file is on the screen and ready to be printed.

1. Go to **File>Print**. The **Print** dialog will display.
2. **General** tab
Select your PowerRIP printer in the **Select Printer** portion of the dialog.
3. **Layout** tab
Select the appropriate orientation.
4. **Paper/Quality** tab
Click the **Advanced** button.
The **Advanced Options** dialog will display.

Note: The available options are dependent on your printer. Not all options are available on all printers.

Advanced Options allows you to select a variety of options for printing. A complete discussion of all the options can be found in Chapter 9. Select the appropriate **Resolution** or **Print Mode** and **Paper Type**. If a resolution has  next to it, then that resolution is not available for the current features selected in Advanced Options.

Click **OK**. Click **Print**.

PowerRIP 2000 will automatically launch and start processing the file if it is installed on the startup drive. If PowerRIP 2000 is installed on a drive other than the startup drive, you will have to manually launch PowerRIP 2000.


Printing from stand-alone workstation running Windows 98

Note: It is assumed that a WordPad file is on the screen and ready to be printed.

1. Go to **File>Print**. The **Print** dialog will display. In the printer **Name** field select your printer.
2. Click **Properties**

Note: The available properties are dependent on your printer. Not all properties are available on all printers.

The **PowerRIP 2000 Properties** dialog will display. This dialog allows you to select a variety of options for printing. A complete discussion of all the options can be found in Chapter 9.

3. **Paper** tab
Select the appropriate Paper Size and Orientation.
4. **Graphic** tab
For those printers that use Print Mode skip step 4 and proceed to step 5.
Select the appropriate **Resolution**. If a resolution has  next to it, then that resolution is not available for the current features selected.
5. **Device Options Tab**
Device Options allows you to select a variety of options for printing. A complete discussion of all the options can be found in Chapter 9.
Select the appropriate **Paper Type** and **Print Mode**.
Click **OK**. Click **OK**.

PowerRIP 2000 will automatically launch and start processing the file if it is installed on the startup drive. If PowerRIP 2000 is installed on a drive other than the startup drive, you will have to manually launch PowerRIP 2000.

Printing from stand-alone workstation running Windows NT 4

Note: It is assumed that a WordPad file is on the screen and ready to be printed.

1. Go to **File>Print**. The **Print** dialog will display. In the printer **Name** field select your printer.
2. Click **Properties**.

Note: The available properties are dependent on your printer. Not all properties are available on all printers

The **PowerRIP 2000 Properties** dialog will display. This dialog allows you to select a variety of options for printing. A complete discussion of all the options can be found in Chapter 9.

3. **Page Setup** tab
Select the appropriate **orientation**.
4. **Advanced** tab
Select the appropriate **Paper Size**. Select the appropriate **Resolution** or **Print Mode** depending on your printer.
Click **OK**. Click **OK**.

PowerRIP 2000 will automatically launch and start processing the file if it is installed on the startup drive. If PowerRIP 2000 is installed on a drive other than the startup drive, you will have to manually launch PowerRIP 2000.

Printing from a Macintosh Client to a PowerRIP 2000 PC Server

To print from a Macintosh client to a Windows PowerRIP 2000 server you must be running under Windows NT Server 4.0 with **Services for Mac** installed or Windows 2000 Server.

Installing PC PPDs on the Macintosh

Note: For the purpose of this discussion it is assumed:

1. That PowerRIP 2000 is installed on the PC server.
2. The PC will hence forth be considered the Server for this discussion.
3. That the Macintosh and PC are on a network and that the Macintosh can see the PC in the Chooser.
4. The Macintosh will hence forth be considered the client for this discussion.

If you are going to print to a PC server from a Macintosh client you must copy the appropriate Windows PPD to the Macintosh. If you are using an NT server, **Services for Mac** must be installed. When PowerRIP 2000 is installed on your hard drive a folder called PPD is also installed in that folder. To copy the Windows PPD to your Macintosh Operating System do the following:

1. Go to your **Chooser**.
2. Highlight **AppleShare**. The name of your PC server should display on the right side of the Chooser dialog under **Select a file server**:

Note: If you cannot see the server then you can go no further. Check your network to discover why you cannot see the server. Check to make sure you have rights to access the server. If the server is an NT system make sure that Services for Mac have been installed.

3. Highlight the server name.
Click **OK**.
4. The **Connect to File Server** dialog will display. Select **Registered User**. Type the appropriate **Name** and **Password** if applicable.
Click **Connect**.
5. A dialog will display allowing you to select the drive that PowerRIP 2000 is installed on. Highlight the drive and click **OK**. Close the Chooser. The drive you selected will be mounted on the Macintosh desktop.
6. Open the PC hard drive mounted on your Macintosh. Navigate to the PowerRIP 2000 folder and open it. Open the PPD folder. Highlight the appropriate PPD for your printer. *Note: Do not select the SPD.*

7. Go to **Edit** and select **Copy**.
8. Go to your Macintosh **System Folder>Extensions>Printer Descriptions**. Open the **Printer Descriptions** folder. Do an **Edit>Paste**. The PC PPD will copy to your Printer Description folder.

You are now ready to print from the Macintosh client to the PC server. You can use either LaserWriter or AdobePS to Print to the server.

Printing from a Macintosh Client to Windows NT Server 4.0 or Windows 2000 Server

Note: For this discussion we will be using the LaserWriter driver. The same directions apply for AdobePS.

1. Go to the Chooser and highlight LaserWriter. Click **Create**. Create will display the first time you go to the Chooser. Setup will display thereafter.
2. The **LaserWriter** dialog will display. Click **Select PPD**.
3. In the **Choose a File** dialog make sure that you are in the **Printer Descriptions** folder. Select the PPD that you copied from the PowerRIP 2000 to your Printer Descriptions folder. Click **Choose**. Click **OK**
Close the Chooser.
You are now ready to print from your Macintosh applications.

For directions for printing from specific applications refer to the iProof Systems web site and/or your PowerRIP 2000 CD for the appropriate ReadMe for the application you are printing from.

Print to File

Any application that sends header information along with the PostScript file will cause PostScript errors unless you Print to File. FreeHand is such an application. FreeHand sends header information along with the PostScript file when the print command is executed. This creates various PostScript errors. Print to File circumvents this header information and allows you to print FreeHand files to your printer. For ease of operation create a new folder on your hard drive to house your PostScript files. Follow the directions below to Print to File.

For this discussion FreeHand will be used and it is assumed that a FreeHand file is on the screen and ready to be printed.

1. Got to **File>Print**.
2. Select your printer in the **Printer** field.
3. Select **Print to File**.
4. Select **Use PPD**. The Select PPD dialog will display. Navigate to the PPD folder in the PowerRIP 2000 folder on your hard drive. Highlight the PPD for your printer and click **Open**.

If the select PPD dialog does not automatically open, click on the box with the 3 dots to the right of Use PPD and then navigate to PPD folder and select the appropriate PPD.

Note: Do not select the SPD.

5. Click **Properties**.

Note: If using Windows 2000 click the Advanced button.

Select the properties that are appropriate for your printing needs.

Click **OK**.

Click **OK**

(If using Windows 2000 Click **OK** a 3rd time.)

6. The **Print to File** dialog will display. Navigate to the folder you wish to save your PostScript file in. Click **Save**.
7. Launch PowerRIP 2000
8. Go to **File>Print PostScript File**.
9. Navigate to the folder that you have saved your file in. Highlight the file you wish to print. Click **Open**.
10. Select **Use Document Default Settings**. Click **OK**.
The file will process and print.

Cancelling a Print Job

Should it become necessary for you to cancel a job before it prints or after it has begun, there are two options:

- You can cancel a job in PowerRIP 2000's Main Control dialog by clicking **Cancel** on the right side of the Progress bar.
- You can cancel a job by opening the Print Manager for the **BGXXx** printer, right-clicking on the job, and selecting **Cancel Job** or **Purge Jobs**. The BGXXx printer queue can be opened by going to **Start>Settings>Printers**.

Chapter 4 - PowerRIP PDF

Note: The installation procedure and dialogs displayed are predicated on the revision of PowerRIP PDF, and your Operating System. Not all features are available on all revisions of PowerRIP PDF.

PowerRIP PDF is the ideal utility for creating high quality, platform independent PDFs. You can take advantage of all your applications' various features and attributes, combined with the feature intensive PowerRIP 2000, giving you complete flexibility to create PDFs that meet your particular needs. These PDFs being small in size and platform independent can be viewed on both the Macintosh or PC, can be used as e-mail attachments, or web site documents, and are "print-ready" PDFs.

Features

- Creates PDFs using all applications' document settings
- Select the appropriate resolution for your high quality needs
- Creates Mirror Images
- Creates composite PDFs from separations
- Creates separation PDFs from composites
- Embeds fonts in the PDF
- Image Compression
- Auto Rotation
- Preserves OPI Comments
- Preserves Overprint Settings
- Color Calibration Control
- Complete Color Management

Requirements

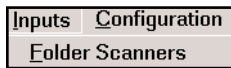
- At least 1 GB of free hard drive space on the startup drive.
- Optional Adobe Acrobat Reader 3.0 or later to view PDFs on PC. Acrobat 4.0 recommended.

PowerRIP PDF Setup

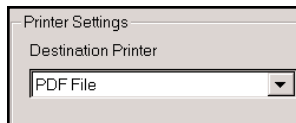
The Setup to create PDFs is as follows:

1. Launch PowerRIP 2000.

2. Go to **Inputs/Folder Scanners**. The **Folder Scanner Configuration** dialog will display.



3. In **Printer Settings** make sure Destination Printer is **PDF File**. Click **OK**.



Creating a PDF using PowerRIP PDF

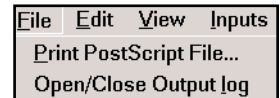
When printing from your application, you will select PowerRIP PDF as your printer. PowerRIP 2000 will process the file and create the PDF using the options you selected in the Properties portion of the Print dialog. The PDF will be created and saved in a folder called PDFOut. PDFOut was created when PowerRIP 2000 was installed. The PDFOut folder can be found in the DIGIS folder on your hard drive.

Creating a PDF from a PostScript file

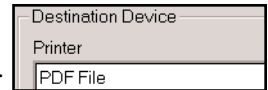
Some applications, such as FreeHand, send header information along with the PostScript file which can cause PostScript errors unless you Print to File. For this discussion a file called jacket.ps was created in FreeHand using Print to File and saved to a folder called Print.

1. Go to **File/Print**

PostScript File. The **Open** dialog box will display. Highlight the PostScript file you want to convert to a PDF. Click **Open**.

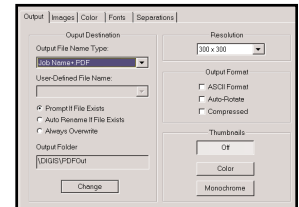


2. The **Configure Document Specs** dialog will display. In the **Printer** pull-down make sure that **PDF File** is selected.



3. Click **Specify Settings**.

The **PDF File Setup** dialog will display. Select the appropriate features in the **Output**, **Images**, **Color**, **Fonts**, and **Separations** tabs.

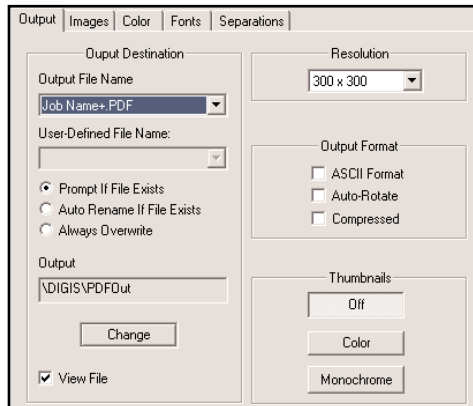


Note: A description of all the features in the Output, Images, Color, Fonts, and Separation tabs can be found on the following pages.

Click **OK**.

The **Configure Document Specs** dialog will redisplay. Click **OK**. The PostScript file will process and the PDF will be saved in the PDFOut folder.

Specify Settings - Output Tab

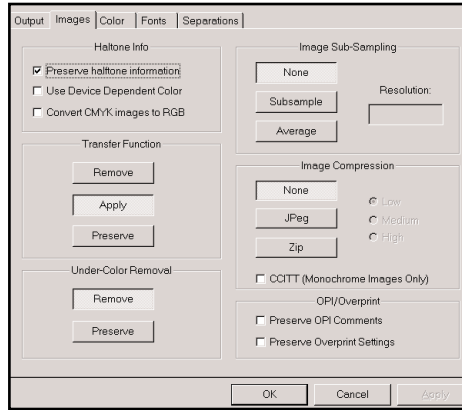


<p>Output File Name</p>	<p>Job Name.PDF - creates the PDF using the job name.</p> <p>File Name.PDF - creates the PDF using the name of the file.</p> <p>User Defined - When User Defined is selected User Defined File Name becomes active. You can type a file name for the PDF in this area.</p> <p>Prompt - A dialog will display allowing you to type a file name.</p>
<p>Prompt If File Exits</p>	<p>If the file or job name already exists in the PDFOut folder a Choose Another Name window will display. Type a new name for the file.</p>
<p>Auto Rename if File Exists</p>	<p>If the file or job name already exists in the PDFOut folder the PDF will be saved with a number added to the name. (Example: jacket#2.PDF)</p>
<p>Always Overwrite</p>	<p>If a file or job name already exists in the PDFOut folder a new file or job of the same name will overwrite the previous file.</p>
<p>Output</p>	<p>The default output folder is \DIGIS\PDFOut and can be found on the same drive as your PowerRIP. If you wish to put the default folder on a different drive click Change. The Select PDF Destination Folder dialog will display. Select the drive and type the path. A PDFGEN dialog will display asking you if you wish to create a new directory. Click Yes.</p>
<p>Resolution</p>	<p>The available resolutions are 72 x 72, 144 x144, 288 x 288, 300x300, 600x600, 1200x1200, and 2400 x 2400. It should be noted that selecting a higher resolution can significantly increase the PDF file size.</p>
<p>Output Format</p>	<p>ASCII Format - allows you to save the PDF in an ASCII format. It should be noted that the ASCII Format will create a slightly larger file.</p> <p>Auto Rotate - rotates a file from portrait to landscape.</p> <p>Compressed - Compresses text such as books and manuals to create a smaller PDF file. <i>Note: The appropriate compression method is one that creates the smallest PDF as possible, with the highest possible quality.</i></p>

Output Tab (Cont)

Thumbnails	Thumbnails are very small page representations that aid the user in navigating through multi-page document. Thumbnails are useful for multi-page documents such as manuals.
Color	Creates a color PDF.
Monochrome	Not available at this time.
View File	If you select View File the PDF will automatically be opened in Acrobat as soon as the PowerPDF finishes creating the PDF.

Specify Settings - Images Tab



<p>Halftone Information</p>	<ul style="list-style-type: none"> - Select Preserve Halftone Information when you want to retains the halftone (screening) information - Select Use Device Dependent Color to use the PowerPDF 2000 color corrected information when creating the PDF. - Select Convert CMYK images to RGB if you want RGB images when the PDF is created.
<p>Transfer Function</p>	<ul style="list-style-type: none"> - Remove - will remove the curves in the file when making the PDF. When the PDF is opened in Acrobat the change in the file can be seen on the screen. - Apply - will use the curves in the file when making the PDF. When the PDF is opened in Acrobat the change in the file can be seen on the screen. - Preserve - uses the curves in the file when making the PDF. When the PDF is opened in Acrobat the change in the file cannot be seen on the screen.
<p>Under-Color Removal (UCR)</p>	<ul style="list-style-type: none"> - Remove - removes UCR when creating the PDF. - Preserve - retains the UCR information when creating the PDF.
<p>Image Sub Sampling</p>	<ul style="list-style-type: none"> - None - no sub sampling will occur. - Subsample - reduces the amount of data in the image to no more than what the PDF needs. - Resolution should be defined when doing Average. Select the lowest resolution possible. Selecting a high resolution will greatly increase the time it takes to process and print the file.
<p>Image Compression</p>	<ul style="list-style-type: none"> - None - no compression will occur. - JPEG - compression creates a much smaller size because it eliminates data. JPEG compression can affect image quality. - ZIP - compression does not remove data to reduce the file size so it does not affect the image quality.
<p>CCITT (Monochrome Images Only)</p>	<ul style="list-style-type: none"> - CCITT is a compression method for black and white images made by paint programs and any image scanned with an image depth of 1 bit. There is no loss in image quality with this compression method.
<p>OPI/Overprint</p>	<ul style="list-style-type: none"> - Preserve OPI Comment - retains the information needed to replace an FPO (For Placement Only) image with a high resolution image located on a server that supports OPI. - Preserver Overprint Settings - retains the overprint settings in the file being converted to a PDF.

Specify Settings - Color Tab

Color Mode	Color Mode cannot be deselected. Monochrome not supported in this revision.
Intended PDF Color Appearance	<p>SRGB-WEB - is the default RGB color space for Windows and the color standard for the Web.</p> <p>NTSC-1953 - is the color standard for national TV.</p> <p>SWOP - The color matching standard that all printing presses and proofing systems in the United States are based upon.</p>
Rendering Intent	<p>Perceptual - is a rendering intent which compresses the total gamut from one device's color space when one or more of the colors in the original image is out of the gamut of the destination color space.</p> <p>Absolute Saturation, Relative Saturation, Relative Colorimetric, and Absolute Colorimetric not available in this revision.</p>
CMYK Source	Printers Output Profiles. CMYK 1 through 10 should be used for customized CMYK Source information only.
RGB Source	Monitor Profiles. RGB Source should be set to reflect the monitor used to create the image. Use Document Default if none of the available choices apply.
Mirrored	Creates a mirror image of the file.

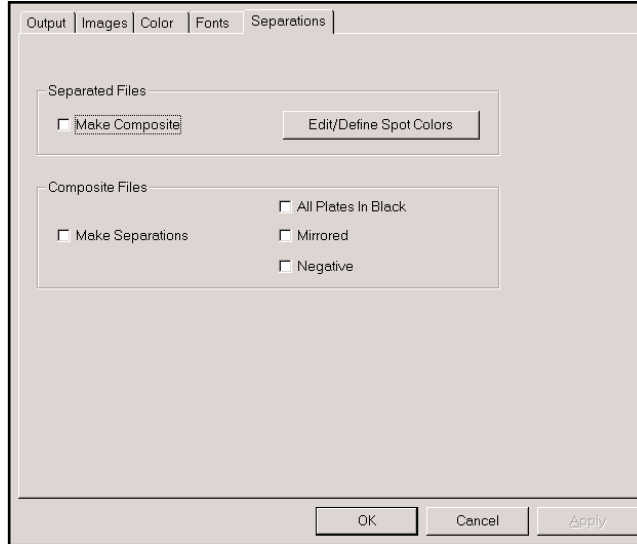
Specify Settings - Fonts

The screenshot shows a dialog box with the following elements:

- Tabs: Output, Images, Color, **Fonts**, Separations
- Checkboxes:
 - Subset Fonts
 - Embed all fonts
- Section: Never Embed These Fonts:
 - Text input field
 - Buttons: Add, Remove, Clear Sel., Save, Load
- Section: Always Embed These Fonts:
 - Text input field
 - Buttons: Add, Remove, Clear Sel., Save, Load

Subset Fonts	Selected Subset Fonts if you have created a list of fonts in Always Embed These Fonts. The subset you have created will always be embedded with the PDF when it is created.
Embed All Fonts	Select Embed All Fonts to embed all the fonts with the PDF when it is created.
Never Embed These Fonts	<p>Click Add to type the name of the font you never want embedded with the PDF.</p> <p>Highlight the font you want to delete from the list and click Remove.</p> <p>Click Clear Sel to delete the selection you had previously made.</p> <p>Click Save to save the fonts you have defined as never being embedded with the PDF.</p> <p>Click Load to load the subset of fonts that you do not want embedded with the PDF.</p>
Always Embed These Fonts	<p>Click Add to type the name of the font you always want embedded with the PDF.</p> <p>Highlight the font you want to delete from the list and click Remove.</p> <p>Click Clear Sel to delete the selection you had previously made.</p> <p>Click Save to save the fonts you defined as always being embedded with the PDF.</p> <p>Click Load to load the fonts that you always want to embed with the PDF.</p>

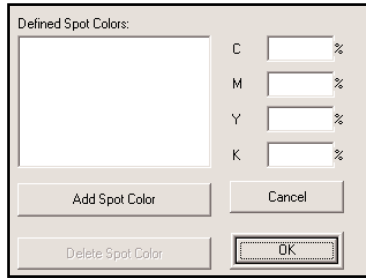
Specify Settings - Separations



<p>Separated Files</p>	<p>Select Make Composites to create a composite PDF from separations</p> <p>When you click on Edit/Define Spot Colors the Spot Color Configuration dialog will display. To define a spot color click Add Spot Color. The Add Spot Color dialog will display. Define and name the spot color. Click OK. Your new spot color is added to the Define Spot Color list.</p> <p>To delete a spot color from the Define Spot Color list, highlight the color and click Delete Spot Color.</p> <p>Click OK to exit the Edit/Define Spot Color dialog.</p>
<p>Composite Files</p>	<p>Select Make Separations to create a separation PDF.</p> <p>Select All Plates in Black to create a PDF separation with black plates.</p> <p>Select Mirrored to create a mirrored separation PDF.</p> <p>Select Negative to create a negative separated PDF.</p>
<p>Edit/Define Spot Colors</p>	<p>See page 22, this manual.</p>

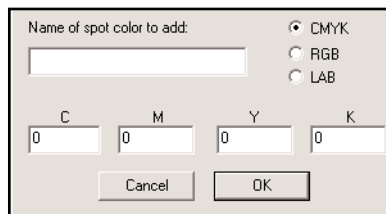
Edit/Define Spot Color

When you click **Edit/Define Spot Color**, the **Spot Color Configuration** dialog will display. This dialog gives you the ability to **Add Spot Colors** and/or **Delete Spot Colors**. You can save your spot colors in **CMYK**, **RGB**, or the **LAB** color mode.



Add Spot Color

Type the name of the spot color in the **Name of Spot Color to Add** portion of the dialog. Select the appropriate color mode.



CMYK

The CMYK model is based on the light-absorbing quality of ink printed on paper. **Cyan**, **Magenta**, and **Yellow** pigment, in theory, combine to absorb all color and create black. For that reason these colors are called *subtractive* colors. But in reality, because of impurities in the inks, you get a muddy brown. So these inks must be combined with **K** (black) to produce a true black. Combining C, M, Y, and K is called *four-color printing process*.

RGB

The RGB model describes the mixing of **Red**, **Green**, and **Blue** which is called the *additive* primary colors. These colors are mixed on the monitor screen when red,

green, and blue phosphors are stimulated at different intensities. RGB uses 3 colors to reproduce up to 16.7 million colors on-screen.

LAB

The LAB color model is based on the model proposed by the Commission International d'Eclairage (CIE) in 1931 as an international standard for color measurement. In 1976 this model was refined and named CIE L*A*B*. The LAB model is designed to be device dependent. Lab color consists of a luminance or lightness (**L**) component, an **A** chromatic component from green to red, and a **B** component from blue to yellow.

Type the appropriate percentage of CMYK, RGB, or LAB depending on the color mode you have selected. Click **OK**. The name of the spot color you have just defined will display in the Defined Spot Colors portion of the dialog. It should be noted that only the spot colors you defined for a specific color model will display in Defined Spot Colors. If you defined a CMYK and RGB spot color, you have to select the appropriate color mode to see the spot colors you defined for it. All the spot colors you defined for all the color models do not display in one window.

Delete Spot Color

Highlight the spot color you wish to delete in the Defined Spot Colors portion of the dialog. Click **Delete Spot Color**. Click **OK**. The spot color will be removed.

Calibration

PowerRIP PDF has the ability to color adjust using the Q-Curve Calibration feature. This gives the user the ability to increase or decrease the color intensity. The user can adjust all colors or each color individually. Refer to Chapter 7, this manual for an in-depth discussion of calibration.

Chapter 5 - *PowerRIP TIFF* Available in the Platinum and LF Platinum versions only.

Note: Not all features are available on all revisions of PowerRIP 2000.

Overview

PowerRIP TIFF is ideal for creating high quality, high resolution TIFF images that are platform independent. The higher the resolution you select, the higher the quality the TIFF image becomes. But it also should be noted that the higher the resolution selected, the bigger the file, the higher the quality the TIFF becomes. So a large amount of free hard drive space to accommodate high quality TIFF images needs to be available.

All the PowerRIP 2000 features are available when using PowerRIP TIFF including:

- Make Compositions from Separations.

Note: Not all applications have the capacity to create compositions from separations. Photoshop, Word, and Excel are examples of applications that cannot use this feature.

- PowerRIP 2000s High quality color management
- Compression for ease of portability and storage
- Ability to select a resolution that best suits your needs.
- Ability to create RGB or CMYK TIFFs

Creating TIFF Images

Any application that has the ability to create a PostScript file can be used to create a TIFF image using PowerRIP TIFF. The PostScript file will be created by the application using the applications **Print to File** feature and then processed by PowerRIP 2000 to create the TIFF output.

Creating a TIFF Image using PageMaker 6.5

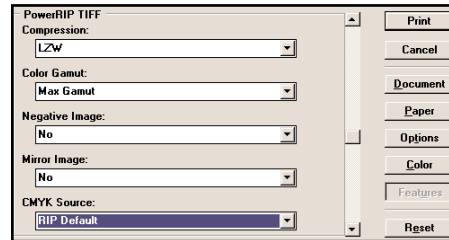
Note: It is assumed that the images and/or text you wish to convert to a TIFF image is on the screen and ready to be processed.

1. File>Print

The **Print Document** dialog will display. Select **PowerRIP TIFF** in the Printer pull-down. Select **PowerRIP TIFF** in the PPD pull-down.



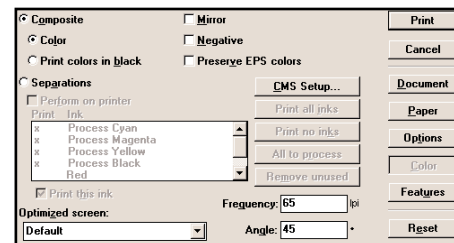
2. Click the **Features** button. The **Print Features** dialog will display. Select the features that meet your needs.



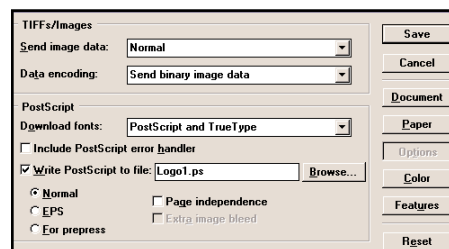
Note: This is a scrollable dialog.

For an in-depth discussion of all the PowerRIP TIFF features see Chapter 9, this document.

3. Click the **Color** button. The **Print Color** dialog will display. Select **Composite**.



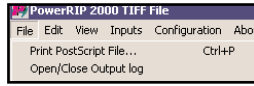
4. Click the **Options** button. The **Print Options** dialog will display. Select **Normal** in the Send Image Data pull down. Select **Write PostScript to file**. The file name should display to the left of the Browse button.



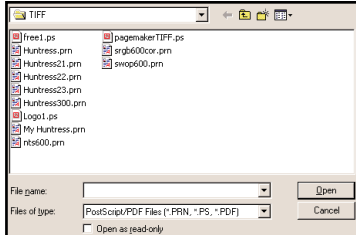
5. Click the **Browse** button. The **Write PostScript to File** dialog will display. Navigate to the folder you wish to save your PostScript file in. Click **Save**. The PostScript file will be saved to the folder you indicated.



6. Launch PowerRIP 2000. The **PowerRIP 2000 Main Control Dialog** will display. Go to **File>Print PostScript file**.

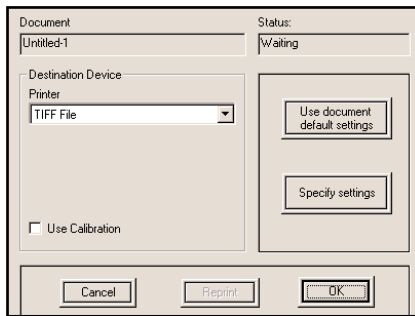


The **Open** dialog will display.

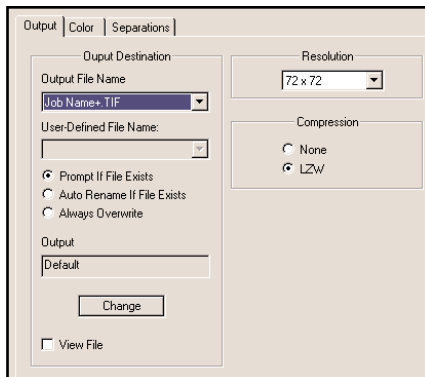


Highlight your PostScript file and click **Open**.

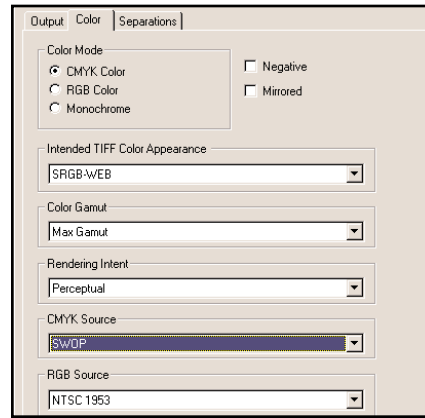
7. The **Configure Document Specs** dialog will display. Select **TIFF File** in the Printer pull down. Click **Specify Settings**



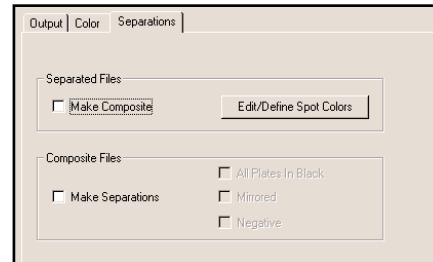
8. The **TIFF File Setup** dialog will display. Select the appropriate features in the **Output** tab. See page 24 for descriptions of the Output tab features.



9. Select the appropriate features in the **Color** tab. See page 26 for descriptions of the Color tab features.

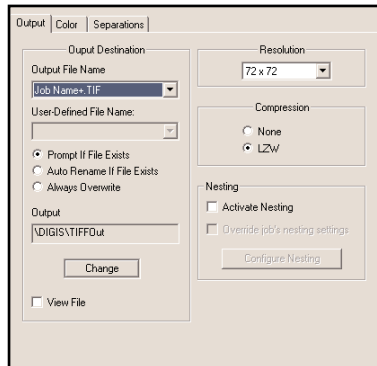


10. Select the appropriate features in the **Separation** tab. See page 27 for descriptions of the Separation tab.

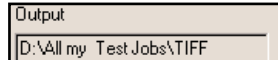


11. Click **OK**.
Click **OK**.
PowerRIP 2000 will process the PostScript file, create the TIFF image, save the TIFF image in the folder indicated and display the TIFF image if you have View File selected.

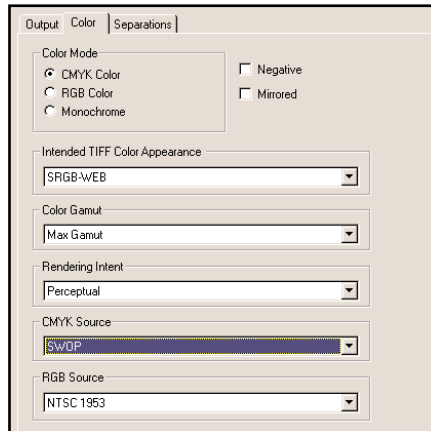
TIFF File Setup - Output tab



<p>Output File Name</p>	<p>Job Name.TIF - creates the TIFF using the job name. File Name.TIF - creates the TIFF using the name of the file. User Defined - When User Defined is selected User Defined File Name becomes active. You can type a file name for the TIFF in this area. Prompt - A dialog will display allowing you to type a file name.</p>
<p>Prompt if File Exists</p>	<p>If the file or job name already exists in the PowerRIP TIFF folder a Choose Another Name window will display. Type a new name for the file.</p>
<p>Auto Rename If File Exists</p>	<p>If the file or job name already exists in the PowerRIP TIFF folder the TIFF will be saved with a number added to the name. (Example: jacket10.TIF)</p>
<p>Always Overwrite</p>	<p>If a file or job name already exists in the PowerRIP TIFF folder a new file or job of the same name will overwrite the previous file.</p>
<p>Output</p>	<p>The default folder that the TIFF images are saved in is DIGIS\PowerRIP TIFF. If you wish to save the TIFF images in a folder other than DIGIS\PowerRIP TIFF click the Change button. The Select TIFF Destination Folder dialog will display. Navigate to the folder you want to define as your default PowerRIP TIFF folder. Click OK. Output will display the path to the folder you have selected</p>
<p>View File</p>	<p>If you select View File the TIFF image will automatically be opened by the application you designate in your system software as soon as PowerRIP finishes creating the TIFF image</p>
<p>Resolution</p>	<p>The available resolutions are 72, 100, 144, 150, 288, 300, 600, 1200, 1270, 2400, and 2540 dpi. It should be noted that selecting a higher resolution can significantly increase the TIFF file size.</p>
<p>Compression</p>	<p>Use compression to create the smallest TIFF file possible.</p>
<p>Nesting</p>	<p>Select Activate Nesting to turn Nesting on. Select Override job's nesting settings if you wish to reprint a nested file with a new Destination Media and Output Reduction.</p>

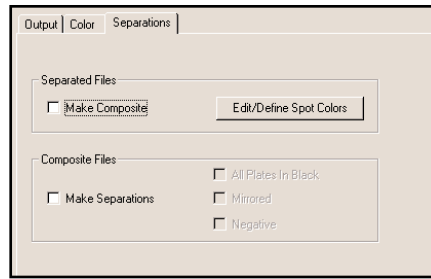


TIFF File Setup - Color tab



Color Mode	Select the Color Mode that meets your needs. The available selections are CMYK Color or RGB Color.
Negative	Select Negative if you wish to create a negative TIFF.
Mirrored	Select Mirrored if you wish to create a mirrored TIFF image.
Intended TIFF Color Appearance	<p>SRGB-WEB - is the default RGB color space for Windows and the color standard for Appearance for the Web.</p> <p>NTSC-1953 - is the color standard for national TV.</p> <p>SWOP - The color matching standard that all printing presses and proofing systems in the United States are based upon.</p>
Color Gamut	<p>Total range of color that can be reproduced for a particular output. Max Gamut will simulate all the colors that are necessary to produce a high quality TIFF image.</p> <p>SWOP Simulated will simulate the color gamut of the web offset press.</p> <p>Euro Simulated is the European equivalent to SWOP Simulated.</p>
Rendering Intent	<p>Perceptual - is a rendering intent which compresses the total gamut from one device's color space when one or more of the colors in the original image is out of the gamut of the destination color space.</p> <p>Absolute Saturation, Relative Saturation, Relative Colorimetric, and Absolute Colorimetric not available in this revision.</p>
CMYK Source	Printers Output Profiles. CMYK 1 through 10 should be used for customized CMYK Source information only.
RGB Source	Monitor Profiles. RGB Source should be set to reflect the monitor used to create the image. Use Document Default if none of the available choices apply.

TIFF File Setup - Separation tab



<p>Separated Files</p>	<p>Select Make Composites to create a composite TIFF from separations</p> <p>When you click on Edit/Define Spot Colors the Spot Color Configuration dialog will display. To define a spot color click Add Spot Color. The Add Spot Color dialog will display. Define and name the spot color. Click OK. Your new spot color is added to the Define Spot Color list.</p> <p>To delete a spot color from the Define Spot Color list, highlight the color and click Delete Spot Color.</p> <p>Click OK to exit the Edit/Define Spot Color dialog</p>
<p>Composite Files</p>	<p>Select Make Separations to create a separation TIFF.</p> <p>Select All Plates in Black to create a TIFF separation with black plates.</p> <p>Select Mirrored to create a mirrored separation TIFF.</p> <p>Select Negative to create a negative separated TIFF.</p>
<p>Edit/Define Spot Colors</p>	<p>See page 22, PowerRIP Users Guide for an in-depth discussion of this feature.</p>

Chapter 6 - Nesting Available in the Platinum and LF Platinum versions only.

Note: Not all features are available on all revisions of PowerRIP 2000.

Overview

Nesting is ideal for combining multiple images and text on a single page to reduce material cost. PowerRIP 2000's fast, efficient workflow, ease of operation, and feature intensive RIP allows you to combine multiple text pages for proofing. Nesting provides significant savings in time. As an example, business cards can be printed on one output page or multiple text pages combined for proofing. PowerRIP 2000's nesting feature can be used in conjunction with crops and trapping.

The nested file can be then converted to a TIFF file using PowerRIP 2000's PowerRIP TIFF feature for inclusion in Web pages among other uses.

All the PowerRIP 2000 features are available when using Nesting including:

- Make Composites from Separations
- PowerRIP 2000's high quality color management
- Ability to select a resolution that best suits your needs.

Nesting Features

Print Properties Print properties are accessed from the Print dialog.	
Nesting	Selecting No Nesting will disable this feature. You can print the page at a percentage of its size by selecting the appropriate percentage in this pull-down. The selections are Pages at 100%, 90%, 80%, 75%, 60%, 50%, 40%, 25%, and 15%. Pages at 100% will print the pages at full size. Pages at 50% will reduce the page by 50% and so on.
Nesting Output Media Size	Defines the page size you wish to output your pages on. All page sizes PowerRIP 2000 supports, for your printer, are available in this pull-down menu. If you print two 8.5 x 11 pages on an 11 x 17 page you would select Tabloid in this pull-down. The pages will auto-rotate to make the most efficient use of the available page size defined in Nesting Output Media Size.
RIP Properties RIP properties are accessed from the Paper Tab in Specify Setting in the Folder Scanners Configuration dialog.	
Active Nesting	Activate Nesting should be selected if you wish to activate Override job's nesting setting.
Override job's nesting settings	Allows you to override nesting features defined when the file was printed. It allows you to define the destination media size (Nesting Output Media Size) and Output Reduction (Nesting).
Configure Nesting	Allows you to define the nesting features if you wish to print a file that has not been previously nested. It allows you to define the destination media size (Nesting Output Media Size) and Output Reduction (Nesting).

Chapter 7 - Color Matching

Note: Chapter 7 includes information about ColorSync and Calibration.

The features discussed in Chapter 7 are dependent on your printer and version of PowerRIP 2000. Not all features are available on all printers or on all revisions of PowerRIP 2000.

Calibration

What is color and why do I have to calibrate

The science of color can be very complicated if described using mathematics to describe human vision. It is much easier to understand color if we use broad concepts instead of those difficult, complicated mathematical formulas.

The human eye has only three color receptors. These three color receptors perceive and react to red, green, and blue (additive primary colors). The human eye is very much like your scanner, in that it generates signals for the red, green, and blue parts of the picture. By the way, for those math wizards these three receptors are mathematically described as XYZ.

But we don't usually define color using XYZ. We use **hue**, **saturation**, and **brightness**. **Hue** is the color name. So if we ask for the color red we are asking for the hue. **Saturation** describes the strength of the color. **Brightness** describes how light or dark the color is. There are many other things that affect our perception of color such as what color background the color will be appearing on. As an example, if you put red on a blue background it would not look as intense as it would on a white background.

Another influence on how we perceive color is the way our eye registers the color values depending on the relative position of other colors in an image. As an example dark colors are less noticeable to the eye than light colors.

The type of paper used to output the image can also influence the look of the color. Different degrees of whiteness and glossiness will affect how we perceive (see) color.

And finally, the type of light used to perceive the color very much affects how we see the color. The **contrast** and **saturation** of the image is very much affected by the light we use. So if you look at an image in daylight and then look at it under florescent lights the colors will look different.

We can go on and on about the science of color, but the short and simple of the matter is that the observer, the light source, the paper, and how the colors are arranged on the page all affect the final output. Add to that mix the fact that no two human eyes perceive color the same way and you have a host of variables that take many books to explain. So, let's look at how we can produce good color that is pleasing to the eye and true to the colors in the image, as we perceive them. Again, keep in mind that no two people agree on what is good color. So the following information is a guide for you to follow to calibrate your PowerRIP 2000 for your particular needs.

But before we begin, let us explore some of the properties of color that you will be exposed to when considering calibration. When printing in color different color inks are placed on the paper to create an image. So the ink and paper are very important factors in printing good color images. But you also need to know which output color process is best suited for your color images. There is one basic method used to lay ink on paper. That is **CMYK**. But **RGB** and **Spot** colors will also need to be addressed in this discussion. So before we begin to calibrate, let us understand the difference between **RGB**, **CMYK** and **Spot** colors.

You are going to be looking at the image two ways. On the screen and on the printed page. The goal is to be able to predict from the monitor display what the output will look like. But this is not easy to do. The monitor uses RGB to display the image. But generally images are output in CMYK. So we want to take an RGB screen image and output as a CMYK and maintain its color integrity.

There is no universal printing standards for PC RGB, CMYK, monitor white, paper white etc. This is particularly apparent when you import an image in one application, print it for proofing purposes and then save it as an EPS. If you import this EPS into a second application, very often you will see a color shift because the second application's color model is slightly different and affected the image's color during output. So it is important that you take all these factors into account when calibrating PowerRIP 2000. You want to create a calibration test file using the application and paper you will be outputting

your images from. You might want to make a number of calibration files for the different paper types and applications that you will be using.

RGB color describes the mixing of red, green, and blue which are called the three **additive primary colors**. These three colors are mixed on the monitor screen when red, green, and blue phosphors are stimulated at different intensities. When an image is scanned, the scanner creates three electrical signals. One for red, green, and blue. These signals each have a digital value. (It should be noted that there are some high end scanners that have the ability to transform the RGB into CMYK information.)

Red, green, and blue vary from scanner to scanner and/or from monitor to monitor. What that means is you can not define the true color from the RGB colors. Different monitors have different phosphors or different illumination. Some screens have a blue tint while others have a green tint and so on. The printer will give you another result because the printer uses a combination of color that is different than the phosphors of the screen. Also, if you take the same image and scan it on different scanners you will again get different results because different scanners use different light sources, filters, sensors, signals, etc. It should be noted that the scanner also needs to be calibrated to narrow these variables.

CMYK describes the ink colors cyan, magenta, yellow and black used in four-color printing and are called **process colors**. These values are usually related to the dot percentage in the color separation. There are as many CMYK systems as there are printing conditions. Also, there are various combinations of CMYK values since a color can be defined using various combinations of CMYK. CMYK values are transformed to RGB values on the monitor. That means you do not get really accurate color simulation on your monitor.

Spot Colors are used when a certain color match must occur. A very common mistake when printing using spot colors is to print process separations. The spot colors will be converted to percentages of cyan, magenta, yellow and black and will no longer be an accurate color match.

Gamut or Color gamut are all the color that a device can produce. It is the range of colors that a color system can output. Many more colors can be displayed on the screen than can be printed. When colors on the screen can not be printed they are out of gamut. If they are out of gamut they can not be printed. The RGB gamut is much larger

than the CMYK gamut. The RGB gamut consists of any combination of red, green and blue. The CMYK gamut consists of only the colors that can be produced with cyan, magenta, yellow and black. So gamut is the range of colors that can print using a particular set of inks and paper.

White Point defines the whiteness and brightness of the image color at the lightest/whitest point in the image. The ink, paper, and quality of the scanned image all affect the quality of the printed color image. The smoothness of the paper affects the resolution. The contrast is affected by the gloss of the paper. The light source used to view the image all affect the final color output.

PowerRIP 2000 Calibration

PowerRIP 2000 has the ability to color adjust using its Q-Curve Calibration feature. This gives the user the ability to increase or decrease the color intensity. The user can adjust all colors or each color individually. It should be understood on the outset, that any adjustment will affect the entire page - including any tints and images on the page. It will also affect any Pantone color you have defined in that page. The user can create different calibration and/or dot gain curves either on the fly or saved as printer queue files, for each individual need as it arises. Saving your calibration printer queue files will allow you to use these files at any time, whereas changing calibration on the fly is a temporary measure. PowerRIP 2000 is calibrated to the manufacturer's inks and papers. If you adjust the calibration it will affect that built in calibration. Since calibration is adjusted in the Folder Scanner Configuration Setup menu it is wise to create a folder on your hard drive called calibration.

Before you create your customized calibration files you should save the default settings so you can go back to them when creating additional customized calibration files. Make sure you select **All Same** and name the file Basic. The calibration file Basic will consist of the standard setup for the manufacturers' inks and papers. The customized calibration files will reflect your color adjustment. This will give you the versatility of using the PowerRIP 2000 preset color adjustment or your personalized color adjustments simply by printing using the appropriate calibration file.

Since you can create different files that can be attached to specific queues as well as customized calibration files for each paper type, resolution and printer, it is easier to always work from the same basic calibration file.

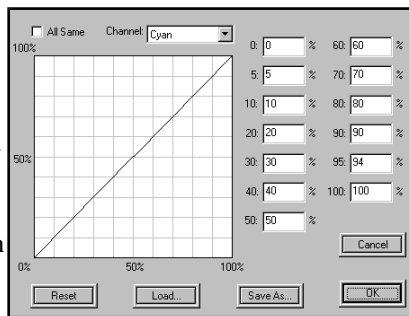
It should be noted that deselecting use Calibration in the Folder Scanner Configuration dialog will disable the customized calibration file. Your files will then be printed with the PowerRIP 2000 default settings.

Output Calibration

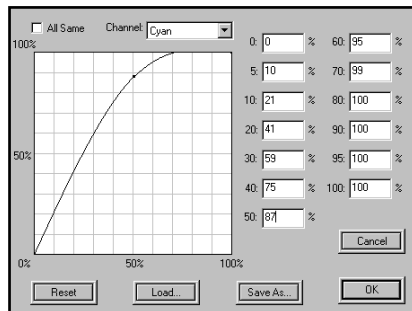
NOTE: *It is highly recommended that a densitometer be used when calibrating the PowerRIP 2000. Though you can calibrate without a densitometer you will be relying on the human eye, light source, etc., which as we discussed earlier can have many variables.*

Calibration to increase or decrease the color **intensity** of your output. The intensity of the color can be defined as the color saturation. When a color becomes less saturated it becomes dull. More saturated it becomes brighter. So Calibration should be used to increase the intensity or brightness of the image.

When you select Output calibration in the Folder Scanners Configuration dialog the Q-Curve 5.0 dialog will display. The Cyan channel will be active. To adjust all colors, pull down the arrow in the Channel Box and choose either cyan, magenta, yellow, or black. Or you can select **All Same**. All Same would cause all four colors to be adjusted to the curve that appears on the screen.

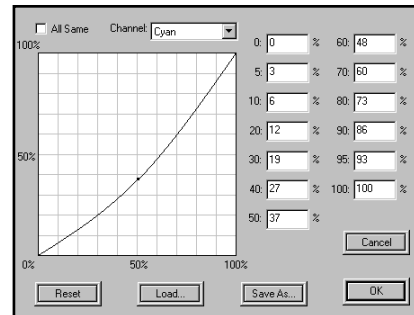


You must remember when working with Output Calibration **the higher the number the lighter your output will print.**



As an example, the 50% box represents the 50% dot area. If you type 80 in the 50% box your image will print lighter, less saturated.

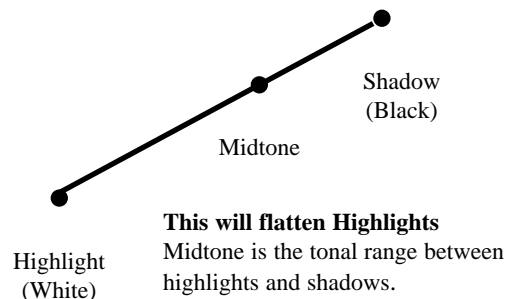
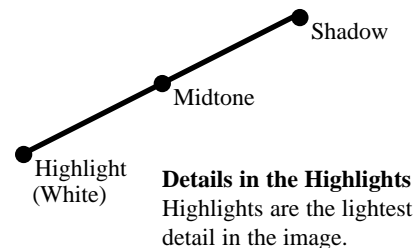
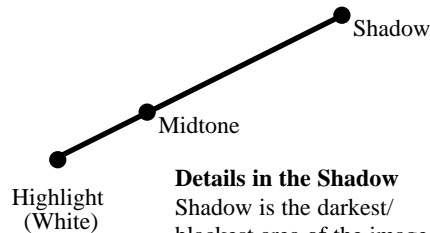
If you type 30 in that box your image will print darker, more saturated.

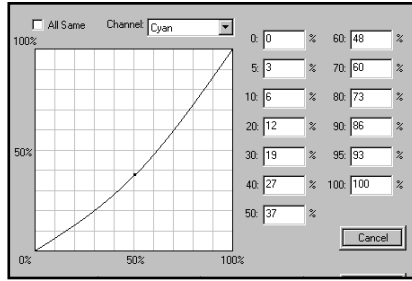
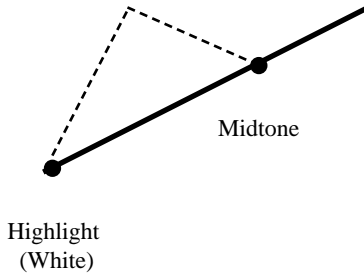


Or you can grab the curve with your cursor and move the curve.

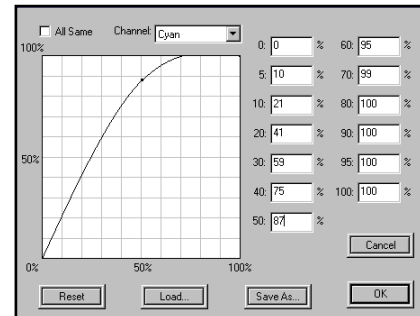
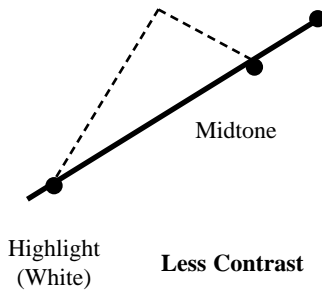
Notice when moving the curve that surrounding percentages are also adjusted to blend properly.

When ink is placed on paper the dot spreads, hence dot gain. The characteristics of the paper, the percentage of ink used and even the order colors are placed on the page can affect dot gain. The critical area where your dot gain decisions should be made are in the midtones of your image. Adjusting the midtones should create an overall pleasing color image. If you adjust the highlights and shadows the midtones will change and will create an unacceptable image when output.





This will flatten the shadows.



This will flatten the highlights.

Dot gain is the change in size of the printed dot. Dot gain is defined as an additive percentage so the increase of the dot size from 50% to 60% is called 10% gain. It should also be noted, at this point, that the ink jet printer uses a dithered (stochastic) dot.

You must remember when working with Dot Gain curves **the higher the number the darker your output will print**. As an example the 50% box represents the 50% dot area. If you type 60 in that box your image will print 10% darker. Notice, when moving the curve, that surrounding percentages are also adjusted to blend properly.

Before working with calibration the following should be considered:

1. The monitor should have been on for at least 1/2 hour so that the monitor stabilizes.
2. Make sure that the room light you are using during calibration is the same light you will be using to view the printed images.
3. Turn off Desktop Patterns. A light gray background is the best color to use when calibrating.

4. Create a test CMYK file to be used when doing calibration testing. This file should contain a good representation of the CMYK colors in a number of different percentages of color. When printing this test file, make sure that you do your calibration with the paper and the resolution that you are going to be printing your images with.

Using PowerRIP 2000 Calibration

Note: It is assumed that PowerRIP 2000 is launched and that the PowerRIP 2000 Main Control Panel dialog has been maximized.

1. Go to **Input>Folder Scanners**. The **Folder Scanner Configuration** dialog will display.
2. Select **Use Calibration** in the bottom left corner of the Folder Scanners Configuration dialog. **Adjust Calibration** will display on the bottom right of the dialog.
3. Click Adjust Calibration. The **Q-Curve 5.0** dialog will display.
 - **Reset:** Click Reset when you want to return to the default curve

- **Cancel:** Click Cancel to exit the Q-Curve 5.0 dialog.
- **Save As:** After you have created a customized file click Save As to save the file for future use. The **Save As** dialog will display. Give your calibration file a name and click **Save**.

Note: You should have created a folder on your hard drive to store your customized calibration files. It is not wise to save your calibration files in the PRPC2000 folder. If you upgrade or uninstall and reinstall you could lose your customized calibration files.

- **Load:** When you want to use one of your customized files you need to tell PowerRIP 2000. When you click on Load the Open dialog will display. Navigate to your calibration folder, highlight the calibration file you want to use and click **Open**.
- **All Same:** If you select All Same all 4 channels, Cyan, Magenta, Yellow, and Black will have the same curve.
- **Channel:** Using the Channel pull down you can select one channel, Cyan, Magenta, Yellow, or Black, and create a calibration file for that channel only.

The percentages available are 0 through 100%. You can not define a negative percentage (less than 0) or more than 100%. You can either type the percentage you want in a specific box on the right of the Q-Curve dialog or you can drag the curve. If you drag the curve the percentages will change in the percentage boxes to match the new curve.

After you have created your customized calibration file click the Load button so that PowerRIP 2000 knows that is the calibration file you wish to use. Then click OK to exit the Q-Curve dialog. As long as Use Calibration is selected in the Folder Scanners Configuration dialog the calibration file you loaded will be used. Click OK to exit the Folder Scanner Configuration dialog. Minimize your PowerRIP 2000. You are now ready to print using your customized calibration file.

ColorSync Support

ICC profiles are color space definitions. The ICC profile format is defined by the International Color Consortium as a cross platform standard. The ability to cross platform allows you to print from the PC to Macintosh, or the Macintosh to the PC. ICC compliant applications, such as Photoshop 5.x, Illustrator 9.x, or Quark, XPress 4.x have

the capacity to output using ICC profiles. PowerRIP 2000 can print from any ICC compliant application.

Installing the ICC Profiles

PowerRIP 2000 comes standard with ICC profiles for all printers that PowerRIP 2000 supports. They can be found in the ICC folder on the PowerRIP 2000 CD. These ICC profiles have been specifically created for the PowerRIP 2000. If you are using Windows 2000 the ICC profiles must be installed in the **WINNT\System32\Color** folder. If you are using Windows 98 the ICC profiles must be installed in **Windows\System\Color** folder.

1. The files in the ICC's folder are executable. Put the PowerRIP 2000 CD in the CD-ROM drive. Open the ICC folder.
2. Double click on the executable for your printer.
3. The WinZip Self extractor dialog will display. You have to point the ICC profiles to the Color folder using the **Unzip to folder** portion on the dialog. Click **Browse**. Navigate to the Color folder. Click **OK**.
4. The correct path will display in the WinZip dialog. Click **Unzip**. The file will unzip into the Color folder. When finished a dialog will display saying the Unzip was successful. Close the WinZip dialog.

You now have the ICC profiles for your printer installed on your system and ready to be used by your applications. Refer to the ICC ReadMe on the PowerRIP 2000 CD, in the Docs folder, for an in-depth discussion of the use of ICC profiles in your applications.

Maximum Density for Color

PowerRIP 2000 has been designed to allow users to print up to 300% maximum color from CMYK files. Exceeding this number will cause problems with excess ink. Some desktop drawing applications set black to 400% by default. A black of 400% wastes ink and is too dense to print well on printers and large commercial offset presses. Most magazines' printing standards, depending on the publication and stock, only allow maximum black within a range of 260% to 285%.

Chapter 8 - PowerRIP 2000 System Requirements

Chapter 8 includes system requirements for all supported printers.

RAM and Disk Space Requirements

Printer	RAM	Disk Space
Epson Series Epson Stylus Color, Color II, Color IIs, 400, 500, 600, 640, 660, 740, 760, 800, 850, 860, 900, 1160, 1500, 1520, 3000 Epson Stylus Pro, Pro XL, Pro XL+, 5000, 777, 880, 980 Epson Stylus Photo, Photo EX, 700, 750, 870, 875, 1200, 1270, 2000P Epson Stylus Scan 2000, 2500, 1290 Epson Stylus Pro 7000, 7500, 9000, 9500, 5000P	48 MB minimum (64 MB recommended) 128 MB minimum	Startup drive should have a minimum of 200 MB of free space for letter size pages, 280 MB free for legal size. Complex documents and large images may require significantly more. 2 GB disk space
HP 900 series (Includes the 930C, 932C, 935C, 950C, 952C, 970Cse, 970Cxi) HP 1220 series (Includes the 1220C, 1220Cse, 1220Cxi)	48 MB minimum (64 MB recommended)	Startup drive should have a minimum of 200 MB of free space for letter size pages, 280 MB free for legal size. Complex documents and large images may require significantly more.
NEC Series NEC SuperScript PS1260 NEC SuperScript PS870	48 MB minimum (64 MB recommended)	Startup drive should have a minimum of 200 MB of free space for letter size pages, 280 MB free for legal size. Complex documents and large images may require significantly more.

Operating System Requirements - All Printers

PC Requirements	Operating System	CD-ROM
Pentium, Pentium II or Pentium III processor (single or multiprocessor) VGA or SVGA color monitor, Mouse	Windows 95/98, NT, Me, Windows 2000 Server & Professional	Required

Chapter 9 - *Properties/Features*

Note: The features discussed in Chapter 9 are dependent on your printer and version of PowerRIP 2000. Not all features are available on all printers or on all revisions of PowerRIP 2000.

PowerRIP 2000 Printers

Option	Description
Paper Size	Paper Size should be set to match the paper you have in the printer. The default setting is Letter.
Copy Count	Select the number of copies you wish to print. The default is 1.
Resolution	Resolution of the printer is measured in dots per inch (DPI) and represents the amount of detail that can be shown. The higher the number the finer the resolution. Lower resolutions print faster and use less ink. The default setting is 360 for most printers.
Scaling	Scaling allows you to reduce the size of the output to fit within a given paper size. The default is 100%.
TrueType Font	Substitute with Device Font is the default and recommended setting. Download as Softfont is also available.
Color Mode	Color Mode can be set to either Grayscale or Full Color CMYK. Full Color CMYK is the default setting.
Rendering Intent	Rendering Intent should be set to Perceptual. Absolute & Relative Saturation and Relative & Absolute Colorimetric are not presently available.
RGB Source	RGB Source should be set to reflect the monitor used to create the image. Use RIP Default if no other option available. RIP Default is the default setting.
CMYK Source	Output profiles for devices such as printers and printing presses. Also known as destination profiles. CMYK Source should be set to RIP Default
Print Mode	Print Mode can be set to Color-Normal, Color-Draft, Color Best, Color-PhotoREt, Color-2400x1200, Monochrome-Normal, Monochrome-Draft, and Monochrome-Best.
Make Composite from Separations	Allows you to print composite proofs directly from color separated output files. Make Composites from Separations should be set to No if you are printing a composite. <i>Note: Not all applications have the capacity to create compositions from separations. Photoshop, Word, and Excel are examples of applications that cannot use this feature.</i>
Make Separations	Make Separations should be set to No unless you are printing a separation.

PowerRIP 2000 Printers Properties/Features (Cont)

Option	Description
Mirror Image	Mirror Image should be set to No unless you wish to print a mirror image.
Negative Image	Negative Image should be set to No unless you wish to print a Negative image.
Paper Type	Paper Type should be set to match the paper you have in the printer. PowerRIP 2000's Color Rendering Dictionaries (CRDs) are based upon the printers special paper stocks. These CRDs produce the maximum output quality on the selected paper. Paper type is printer and resolution dependent.
Generate Pure Black	Generate Pure Black should be selected if you do not want the black to be created using C, M, and Y. If Yes is selected blacks will print directly from the black ink cartridge. If No is selected blacks will be created using C, M, Y, and K. <i>Note: Selecting Yes may have an adverse effect on halftones.</i>
Screening	Screening should be set to Stochastic. Stochastic Screening is a random dot pattern that produces more tones and has more detail than fixed screen rulings.
Duplexing	Select No unless you want to print two sided output. You must have the Duplex Option.
Microweave	Microweave is a printing method in which images are printed in finer increments to reduce the possibility of banding (white lines) and produce laser-like images. Microweave should be set to On.
Print Direction	Print Direction can be set to Unidirectional or Bi-directional. Bi-directional, or high speed, is faster and does not significantly decrease print quality.
Nesting	Select Pages at 100%, 90%, 80%, 75%, 60%, 50%, 40%, 25%, and 15%. Pages at 100% will print the pages at full size. Select No Nesting to turn Nesting off. No Nesting is the default.
Nesting Output Media Size	Defines the page size you wish to output your pages on when using the Nesting feature. Tabloid is the default.

PowerRIP PDF Properties/Features

Option	Description
PDF Color Appearance	SRGB-WEB is the default color space for Windows and the color standard for the Web. NTSC -1953 is the color standard for national TV. SWOP is the color standard that all printing presses and proofing systems in the United States are based on. Select the color appearance that meets you PDF needs. SEGB-Web is the default setting.
Make Separations	Make Separations should be set to No unless you are creating a separation PDF. You can create separations In Color or In Black. No is the default setting.
Make Composites from Separations	Allows you to create a composite PDF directly from a separated file. Make Composites from Separations should be set to No if you are printing a composite. No is the default setting. <i>Note: Not all applications have the capacity to create compositions from separations. Photoshop, Word, and Excel are examples of applications that cannot use this feature.</i>
Embed All Fonts	Select Embed All Fonts to embed all the fonts on your system with the PDF when it is created. No is the default setting.
Subset Fonts	Select Subset Fonts if you have created a list of fonts in Always Embed These Fonts. The subset you have created will always be embedded with the PDF when it is created. No is the default setting.
Preserve Overprint Settings	Select Yes to retain the overprint setting in the file being converted to a PDF. No is the default setting
Preserve OPI Comments	Select Yes to retain the information needed to replace a FPO image with a high resolution image located on a server that supports OPI. No is the default setting.
Compress Images	The available compression methods are No, JPEG Low, JPEG Medium, JPEG High, and ZIP. ZIP creates the smallest compressed PDF. No is the default setting.
Sub-Sample Resolution	The available resolutions are 72 dpi, 100 dpi, 150 dpi, 200 dpi, and 300 dpi. 72 dpi is the default setting
Under Color Removal	Remove does not preserve UCR when creating the PDF. Preserve retains UCR when creating the PDF. Remove is the default setting.
Transfer Function	Remove will remove the curves when making the PDF. Apply will use the curves when making the PDF. Preserve will use the curves when creating the PDF. Apply is the default setting.
Convert CMYK Images to RGB	Select Yes if you want RGB images when the PDF is created. No is the default setting

PowerRIP PDF Properties/Features (Cont)

Option	Description
Device Dependent Color	Select Yes to use the PowerPDF 2000 color correction information when creating the PDF. No is the default setting.
Preserve Halftone Info	Select Yes if you want to retain the halftone (screening) information. Yes is the default setting.
Create Thumbnails	Select No if you do not wish to create Thumbnails. Select Color if you wish to create Thumbnails in color. Select Monochrome if you wish to create monochrome Thumbnails. No is the default setting.
Compress PDF	Select No is you do not wish to compress the PDF. Select Yes to compress the PDF. No is the default setting.
Auto-Rotate	Select Yes to rotate the file from portrait to landscape. Select No if you do not wish to rotate the file. No is the default setting.
ASCII Format	Select Yes if you want to save the PDF in ASCII Format. No is the default setting.
Sub-Sample Image	Select No is you do not wish to Sub-Sample. Select Sub-Sample if you wish the image to be Sub-Sampled or Average if you want the image averaged.
Negative Image	Select Yes if you want to create a Negative PDF. No is the default setting.
Mirror Image	Select Yes if you wish to create a Mirror Image PDF. No is the default setting.
CMYK Source	The available output profiles include None, RIP Defaults, Japan S, SWOP Simulated, Normal, Euro LWCP Less Than 70g, Euro Mat Paper Above 70g, Euro Glossy Paper Above 70g, Euro Uncoated White Offset, and CMYK 1 through 10 which should be used for customized CMYK source information. None is the default setting.
RGB Source	The available monitor profiles are None, RIP Default, a number of Apple Source Profiles, NTSC-1953, CIE RGB, Generic RGB Profile, Generic LAB Profile, and REB 1 through 10 which should be used for customized monitor profiles. None is the default setting.
Rendering Intent	Perceptual should be selected. All other selections not available in this release. Perceptual is the default setting.
Resolution	The available resolutions are 72, 144, 288, 300, 600, 1200, and 2400 dpi,

PowerRIP TIFF Properties/Features

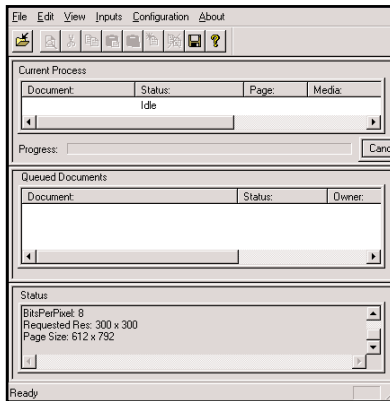
Option	Description
TIFF Color Appearance	SRGB-WEB is the default color space for Windows and the color standard for the Web. NTSC -1953 is the color standard for national TV. SWOP is the color standard that all printing presses and proofing systems in the United States are based on.
Make Separations	Make Separations should be set to No unless you are creating a separation. You can create separations In Color or In Black. No is the default setting.
Compression	Select No is you do not wish to compress the TIFF image.
Make Composites from Separations	Allows you to create a composite TIFF directly from a separated file. Make Composites from Separations should be set to No if you are printing a composite. No is the default. <i>Note: Not all applications have the capacity to create compositions from separations. Photoshop, Word, and Excel are examples of applications that cannot use this feature.</i>
Negative Image	Select Yes if you want to create a Negative TIFF. No is the default setting.
Mirror Image	Select Yes if you wish to create a Mirror Image TIFF. No is the default setting.
CMYK Source	The available output profiles include None, RIP Defaults, Japan S, SWOP Simulated, Normal, Euro LWCP Less Than 70g, Euro Mat Paper Above 70g, Euro Glossy Paper Above 70g, Euro Uncoated White Offset, and CMYK 1 through 10 which should be used for customized CMYK source information. None is the default setting.
RGB Source	The available monitor profiles are None, RIP Default, a number of Apple Source Profiles, NTSC-1953, CIE RGB, Generic RGB Profile, Generic LAB Profile, and RGB 1 through 10 which should be used for customized monitor profiles. None is the default setting.
Rendering Intent	Perceptual should be selected. All other selections not available in this release. Perceptual is the default setting.
Resolution	The available resolutions are 72, 100, 144, 150, 280, 300, 600, 1200, 1270, 2400, and 2540 dpi.
Nesting	Select Pages at 100%, 90%, 80%, 75%, 60%, 50%, 40%, 25%, and 15%. Pages at 100% will print the pages at full size. Select No Nesting to turn Nesting off. No Nesting is the default..
Nesting Output Media Size	Defines the page size you wish to output your pages on when using the Nesting feature. Tabloid is the default.

Chapter 10 - PowerRIP 2000 User Interface

Note: The User Interface information discussed in this chapter is dependent on your printer and version of PowerRIP 2000. Not all features are available on all printers or on all revisions of PowerRIP 2000.

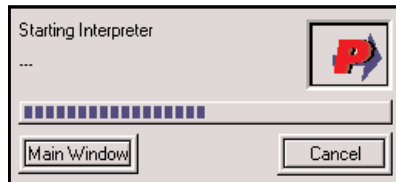
PowerRIP 2000 Control Panel Dialog

Main Control Dialog



From this panel you can configure all the default settings of PowerRIP 2000. It is also used to insert manually, pause, cancel, reprint, and log activities.

Auxiliary Control Dialog



When PowerRIP 2000 is first launched, the **Auxiliary Control** dialog is displayed on screen, for a short time, while the PostScript interpreter is initialized. The Auxiliary Control dialog disappears and **PowerRIP 2000** is automatically minimized to the Windows TaskBar.

TaskBar



Clicking on the PowerRIP 2000 TaskBar button will display the Main Control dialog.

- When PowerRIP 2000 detects a PostScript file in its queue folder(s), the Auxiliary Control dialog will reappear and give you an indication of the current activity of PowerRIP 2000.
- Clicking on the **Cancel** (bottom right corner of the

Auxiliary Control dialog) will force PowerRIP 2000 to abort its current process and flush the PostScript file back to the queue folder.

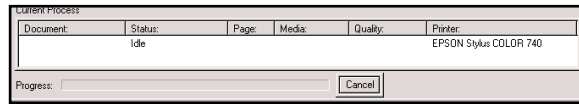
- Clicking on the **Main Window** button (bottom left corner of the Auxiliary Control dialog) will close the Auxiliary Control dialog and open the PowerRIP Control Panel dialog.

Toolbar



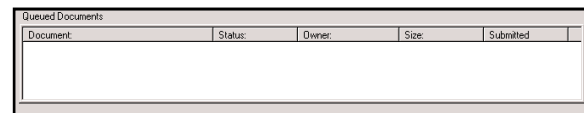
The **Toolbar** can be turned on or off in the **View** menu. Positioning the mouse pointer over a Toolbar button will offer pointer-based ToolTips on the button's function. An expanded description can be seen in the Status Bar at the bottom of the PowerRIP window.

Current Process Panel



The **Current Process** panel indicates the job is currently being processed. Jobs in this panel can be canceled. Once a job is shown in this panel, changing its printing attributes is not recommended.

Queued Documents Panel



The **Queued Documents** panel displays other PostScript files that have been sent to PowerRIP 2000. The top file is the one currently being processed. The other files may be moved in the list, can be deleted, and can have their printing attributes changed before they are processed. The options in the Configuration menu allow these changes to be made. Jobs in this list that have already been printed may be reprinted.

Status Panel



The **Status panel** displays messages from the PostScript interpreter. Messages in this panel are diag-

nostic in nature, and can help technical support personnel identify and correct problems you may encounter when printing PostScript files.

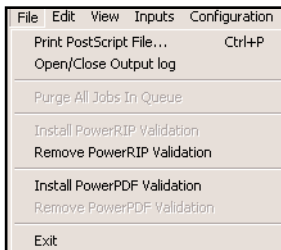
Status Bar



The **Status Bar** displays various messages depending on what the mouse pointer is pointed at. The Status Bar can be turned off in the View menu.

PowerRIP 2000 Menus and Control Dialogs

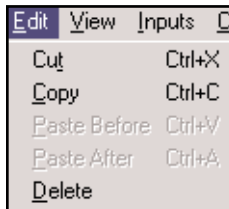
File Menu



- **Print PostScript File** allows you to select for printing a PostScript file not sent directly to PowerRIP 2000, such as a PostScript file created in AutoCAD or FreeHand.
- **Open/Close Output Log** controls the log file of all messages PowerRIP 2000 produces and displays in the *Status Panel* of the Main Control dialog. This message log can be viewed with any text editor, such as NotePad. This option should be invoked every time you use PowerRIP 2000.
- **Exit** shuts down PowerRIP 2000.

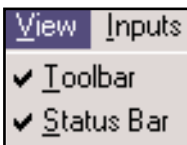
Edit Menu

- **Cut, Copy, Paste Before, Paste After, and Delete.** All these commands are for manipulating individual files visible in the *Queued Documents* panel.



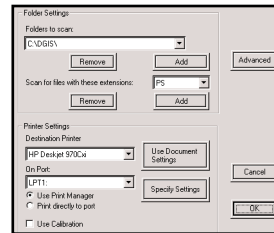
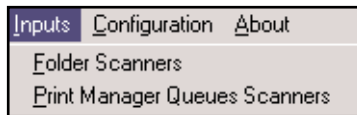
View Menu

- **Toolbar and Status Bar:** Selecting either of these items will hide or show the corresponding section of PowerRIP 2000's Main Control dialog.



Input Menu

- **Folder Scanners:** Selecting this item opens the **Folder Scanner Configuration** dialog.

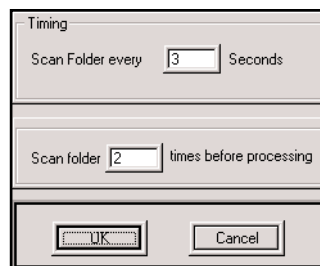


Folder Settings: This portion controls which queue folder PowerRIP 2000 scans for new files, and the type of files it scans for.

- The top **Add** and **Remove** buttons can add or remove folders to the **Folders to Scan** pull down menu. A folder for the PowerRIP 2000 printer you selected when installing PowerRIP 2000 is automatically created. If you add another PowerRIP printer to your system, you will need to add the directory that is created to this menu.
- The lower **Add** and **Remove** buttons can add or remove file types to the **Scan for files with these extension** pull-down menu.
- Clicking the **Advanced** button displays the **Advanced Settings** dialog.
- **Printer Settings:** This section allows you to select printers for PowerRIP 2000 to print to, select the port, and choose to print with or without Print Manager.
- The **Use Document Settings** button, when depressed, tells PowerRIP 2000 to use all the printing options that were selected in the application(s) from which the PostScript files were printed.
- The **Specify Settings** button displays the printer **Setup** dialog.

*Note: Most Windows applications allow you to select a printer and a PPD, and thus all the options included. Use the **Use Document Settings** option when printing from these applications. Some applications do not allow the selection of a PPD, and thus all the options are not available. Specify Settings will allow you to set the options as desired.*

Advanced Setting Dialog

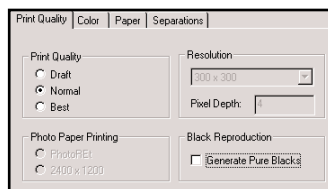


- This dialog allows you to change how often PowerRIP 2000 scans the selected queue folder, and how many times PowerRIP 2000 will scan a new PostScript file before beginning to process it.

Note: This last feature can come in very handy when printing over a slow or busy network. If a PostScript file is incomplete when PowerRIP 2000 starts to process it, it could result in various problems. Increasing the value for this feature can prevent problems from occurring.

- **Specify Settings:** This dialog allows you to change settings for your PostScript files “on the fly.”

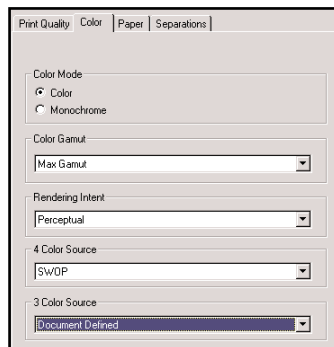
- **Print Quality tab:**



This dialog allow you to define the Resolution, Print Quality, Print Direction, Black Reproduction, Inks, and much more.

Note: The features in this dialog are dependent on your printer. Not all features are available on all printers.

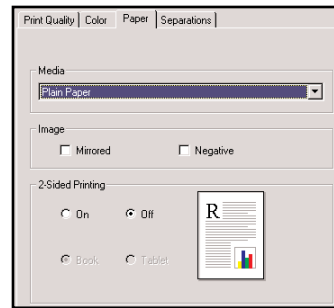
- **Color tab:**



This dialog allows you to define the Color Mode, Color Gamut, Rendering Intent, CMYK Source, and RGB Source.

Note: The features in this dialog are dependent on your printer. Not all features are available on all printers.

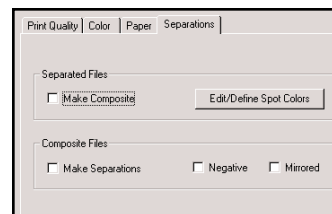
- **Paper tab:**



This dialog allows you to define Media and Image.

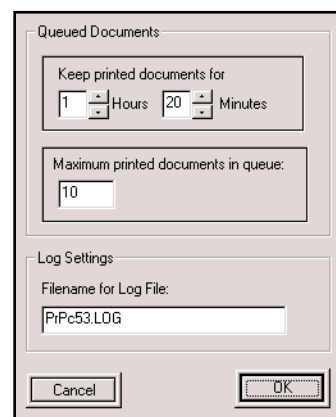
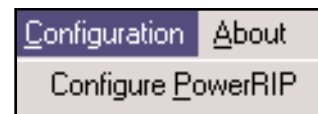
Note: The features in this dialog are dependent on your printer. Not all features are available on all printers.

- **Separation tab:**



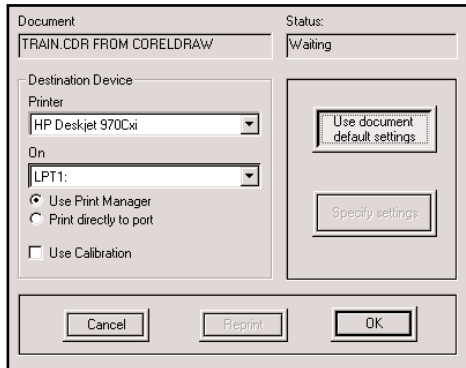
This dialog allows you to define Separated files and Composite files.

Configuration Menu




- **Configure PowerRIP 2000:** Selecting this command opens the **Configure PowerRIP** dialog, which allows you to control how long printed PostScript files remain available for reprinting, and how many files are retained. It also allows you to name your log file (*You can use any name you wish, but if you add the standard .txt extension to the file name, the file can be opened automatically in NotePad or another text editor.*)

- **Configure Document Specs:**



Selecting this command opens the **Configure Document Specs** dialog, which allows you to modify individual document specifications. Document settings cannot be changed while PowerRIP 2000 is processing the file. They can be changed before, or after, if you are reprinting a job. This dialog will also appear when the **Print PostScript File** command is selected in the File menu.

Note: Many of these options affect the others, and if you attempt to use an option that has the symbol , a Conflict Window will appear, telling you exactly what the conflict is and how to resolve it. If you are printing from a Macintosh workstation, unavailable options will be grayed out.

Chapter 11 - Troubleshooting

Chapter 11 will explore various troubleshooting options to help you solve problems you may encounter while installing, setting up, and using PowerRIP 2000 without the need to call on Technical Support. This appendix is divided into separate sections for troubleshooting PowerRIP 2000 Installation, Testing PowerRIP 2000, Printing to PowerRIP 2000, and Printing Quality.

Troubleshooting PowerRIP 2000 Installation

This section will help you troubleshoot problems installing the PowerRIP 2000 software.

Problem	Solution
The PowerRIP 2000 splash screen does not appear when the CD-ROM is loaded.	Auto-play is not enabled. You can usually activate the splash screen by opening My Computer and double-clicking on the CD-ROM. If it still does not appear, double-click the file Splash.exe on the CD-ROM.
Windows reports any kind of non-disk system error while PowerRIP 2000 is installing (i.e., a problem not related to the CD itself).	Restart the computer. When it is finished restarting, disable any antivirus software, disk compression utilities (e.g., Stacker, DriveSpace), and Norton Utility. <ul style="list-style-type: none">• If the error persists, write it down and refer to your Windows documentation, or visit the Microsoft website's Support page. There is a search function that allows you to enter keywords from the error message and receive a list of possible matches and solutions.
Windows reports a disk error while PowerRIP 2000 is installing.	Your CD may be damaged or dirty. Remove the CD and inspect the underside of the CD for dust or scratches. If necessary, clean the CD with a specially-designed cleaning cloth (available at most computer and music stores). Your computer's hard drive may also be corrupted.

Troubleshooting, Testing and Printing to PowerRIP 2000

Important: It is highly recommended that you invoke the Message Logging option available in PowerRIP 2000 (select **Open/Close Log** in the **File** menu). This log will help Technical Support personnel identify any PostScript problems you may encounter.

Problem	Solution
PowerRIP prints on all pages.	PowerRIP 2000 was not validated. See page 9 of this manual.
When testing PowerRIP, it processes the pre-made PostScript files, but the printer only prints strange characters.	This problem usually occurs only in Windows 95/98, when the BGXXX queue printer cannot be created.
Windows displays a message that the printer is unavailable or not responding, or the device is not ready	This usually indicates a problem with the physical connection between the computer and the printer. <ul style="list-style-type: none">• Check all cables for damage, and make sure the connections are tight.

Problem	Solution
(Continued from previous page)	<ul style="list-style-type: none"> • If you are using an automatic switchbox, see if there is a manual override to lock in a specific port. If there is, lock in the port to which your computer is connected. • If you are using an Ethernet-to-Parallel “bridge,” see if you can lock in a specific port, or connect the printer directly to the computer on which PowerRIP 2000 is installed.
PowerRIP 2000 cancels jobs without user interaction or visible alerts.	<p>You are probably encountering a PostScript error. Check the Status Panel of PowerRIP 2000’s Main Control dialog for error messages, or view the log file in a text editor (the log file is located in the PRPC2000 directory on the hard drive.)</p> <ul style="list-style-type: none"> • You will probably need to call upon iProof Tech Support to identify the error and the cause. iProof Support has a comprehensive understanding of the PostScript language and the possible errors you can receive. • Note that many PostScript errors are caused by EPS (Encapsulated PostScript) files that are corrupt or incomplete.
When printing from my application(s), the printer starts almost immediately, but it only prints strange characters.	PowerRIP 2000 is not processing the file. Make sure that you selected the PowerRIP 2000 Printer in the applications(s), and the correct PPD in selected if applicable.
When printing from a Macintosh or a Windows workstation to a Windows NT 4.0 PowerRIP 2000 Server, a message alert appears saying that a file could not be opened for processing or could not be deleted.	<p>This is either a Sharing problem or a Timeout error. There are several options you can adjust on both the server and the workstations.</p> <ul style="list-style-type: none"> • On the PowerRIP 2000 Server: <ul style="list-style-type: none"> - Increase the PostScript Timeout values in the PowerRIP 2000 Printer Properties dialog, accessed through the Printers Control Panel. - Change the PostScript Output Format to “optimize for portability” in the Document Properties dialog, accessed as above. - Increase the Timing values in the Advanced Folder Scanner Settings dialog in PowerRIP. - Make sure that the Permissions settings for Sharing the directory and the PowerRIP 2000 Printer are set to Full Access for everyone. • On the Windows 95/98 workstation: <ul style="list-style-type: none"> - Change Data Format in Advanced PostScript Options dialog to “Pure Binary.” • On the Macintosh workstation: <ul style="list-style-type: none"> - Check the compatibility of your version of LaserWriter for Windows NT 4.0.
An on screen message about insufficient memory appears.	Your computer is running out of RAM, or disk cache memory resources (i.e., virtual memory). Review the System Requirements in Appendix 1.

Problem	Solution
A message about insufficient memory is printed in place of or after a job.	You are running out of free disk space on the boot drive (usually C:\). Free up memory by deleting unused files and applications, and defragmenting your hard drive(s). This message sometimes occurs when printing from FreeHand. Convert any Spot colors to Process.
Jobs stop printing after a certain time and the paper is ejected before printing is complete.	This is usually an indication of a lack of free disk space on the boot drive, or a data transmission error. If you have enough disk space, check to ensure that another background program (anti-virus software, disk utility) was not running.
Prints are clipped close to the edges of the paper.	Know what the unprintable area of your printer is and adjust your documents' margins accordingly. You can check the unprintable area values in the PowerRIP 2000 Printer Properties dialog.
Fonts appear fine on screen, but are substituted with another font.	This usually indicates a missing or damaged PostScript printer font, or a damaged TrueType font. <ul style="list-style-type: none"> • Check the font downloading options in your application. • Make sure that ATM can see the PostScript font in question. • If using QuarkXPress 4.1, turn off ATM, restart your computer, turn on ATM, and then launch QuarkXPress. This needs only be done once to update the .INI files for QuarkXPress.
PowerRIP 2000 processes files slowly or printing takes a long time.	PostScript interpretation is a processor and disk intensive operation. If your computer has a slow processor, not enough RAM, or is running out of free disk space, processing times may be longer than what you are used to printing directly to the printer. Also, large or complex documents with many images and graphics will require more of these resources.

Troubleshooting Print Quality Issues

Obtaining the Best Printing Quality

PowerRIP 2000's PostScript Level 3 compatible interpreter has the ability to use color rendering dictionaries when the RIP is driving a color printer. These color rendering dictionaries are automatically accessed by image-manipulation applications like Adobe Photoshop when printing directly to the printer. Images created in Photoshop can be placed in other applications and still access the color rendering dictionaries, if they are saved as CMYK EPS files or calibrated RGB EPS files. RGB TIFFs and CMYK TIFFs do not access the color rendering dictionaries automatically if placed in other applications and then printed.

CMYK files are usually created in a device-dependent color space, where you can adjust items to the particular printing condition of an individual printer rather than accepting the automatic options in a color rendering dictionary.

To obtain high-quality color images, keep the following points in mind:

- Use the supported or manufacturers' inks and recommended paper for your printer.
- Use the proper papers. Papers designed for ink jet printers have special coatings to evenly distribute the ink, and are different than uncoated bond papers used in laser printers and copiers.
- PowerRIP 2000 has balanced the halftone screening and color technology to work with the manufacturers' inks and recommended papers.

Glossary

Several items having special meaning within the context of this manual are listed below:

application	Applications are the programs that run on a computer. Some common desktop publishing and graphics applications are PageMaker and Photoshop.
bitmap	Bitmaps are images preprocessed at a fixed resolution for a certain monitor or printer.
CMYK	Acronym for Cyan, Magenta, Yellow, and Black (K), the four standard process colors for printing.
CPU	Central Processing Unit, The processor inside the computer. A Pentium is faster than a 486.
dialog	A graphic user interface that cannot be resized or minimized or maximized, but can be moved.
EPS	Encapsulated PostScript. This is a file type that may contain complex graphics. It is designed as a universal format to include complex graphics in other applications.
Image device	A device capable of printing an image on a physical medium, for example, a printer, imagesetter, or ink jet printer.
interpreter	A set of software functions to convert PostScript language operators and operands into a raster image,
network	Cabling, cards, and required software to link computers to each other. Ethernet is the most common.
PostScript	An interpretive programming language, developed by Adobe, used to describe the text, graphics, and image content of a document.
raster image	A sequential bitmap composing an image. For each image pixel, there is a corresponding device pixel.
render	The process by which PostScript language operators and operands are interpreted and a raster image is produced.
RAM	Random Access Memory. Almost all PCs come with 32 MB as a minimum. You can add more RAM to most computers. See your computer dealer for more information.
RIP	Raster Image Processor. An application or device that renders images in raster format for an imaging device.
SWOP	Specifications for Web Offset Printing. All offset press service bureaus use SWOP to match colors. PowerRIP 2000 can adjust colors to simulate SWOP output.
TIFF	Tagged Image File Format. This is a standard image file format consisting of labeled fields.
window	A graphic user interface that can be resized, minimized, maximized, and moved. It usually incorporates scroll bars.

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