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To ensure proper installation and setup, please read through this guide and keep it for future reference.

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*In order to receive the most efficient support, please be at your computer with the software available. When e-mailing, please include your contact information, key number, and a brief description of the problem.*

## Language Settings

You can set your language settings by clicking **File > General Settings...** and then changing your language in the Language option.

## Support Information

See the online Help Files in your program for more information or trouble-shooting tips.

***For technical support, please contact your local representative or contact.***

## System Requirements

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### ***Operating System***

- Windows XP Pro® 32-bit and 64-bit with the latest service pack, or
- Windows Vista® Business/Enterprise 32-bit and 64-bit with the latest service pack

### ***CPU***

- Intel Pentium IV/Xeon 3+ Ghz,
- Athlon 64/Opteron 2+ GHz, or
- Dual CPU for multiple RIPs

### ***Storage***

- Two 80 GB Hard Drives
- 2 GB RAM per CPU

### ***Video***

- 1280 x 1024 16-bit color

### ***Hardware***

- USB Port for Security Key (dedicated)
- DVD-ROM drive

### ***Anti-Virus Software***

Several types of Anti-Virus software (including Symantec/Norton Anti-Virus) running real-time scans on your ONYX station can cause problems running the software such as slow rip times, failure to save printer settings, and issues with color device readings not being accepted by Media Manager.

To resolve this issue, go into your Anti-Virus control panel (for Symantec/Norton it's under Real Time Scanner) and disable any scans on the ONYX folder.

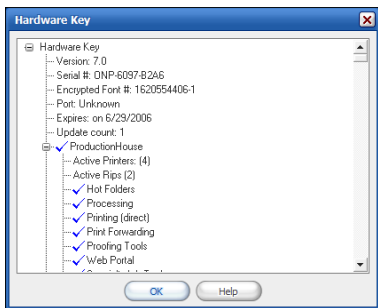


Figure i—Hardware Key Permissions

## How to Use This Manual

This manual will help you understand how to use the various features of your software. Due to the complexity of the product, this guide does not fully describe all the possible software features.

If you do not find a particular topic in this manual, check the ONYX website ([www.ONYXgfx.com](http://www.ONYXgfx.com)) or the Help Files in your program.

Some features described in this manual may not be available in your software package. Check your Hardware Key permissions to view which applications and features you can use.

### ➔ To check your Hardware Key permissions:

1. Run the software.
2. Select **File > View > Hardware Key** from the File menu to display the Hardware Key dialog (see Figure i).

If you have any questions about which features and applications are included in your software package, contact your sales representative.

## Manual Icons

This manual uses icons to help you find important information quickly. These icons are displayed at the left with a description of their purpose. The arrow icon (above) indicates steps or instructions.



*This icon directs you to other sources of information or help.*



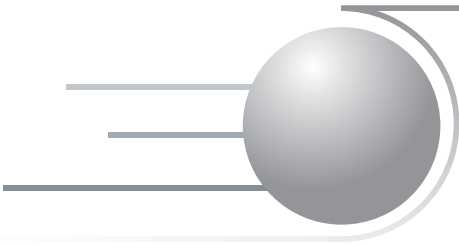
*This icon shows important suggestions, tips, or ideas.*



*This icon shows warnings, cautions, and critical information.*

## Quick Tips

1. Embed ICC Profiles when saving your image in your graphic application. This helps guarantee better color.
2. Copy your files to your local system for faster processing.
3. When saving .eps files, make sure that the printer and screen fonts are included with your file.
4. Keep your printer maintained properly by running daily maintenance. Print a warm-up job to check that there are no areas of over- or under-inking.
5. Recalibrate your media to provide up-to-date printer performance information.



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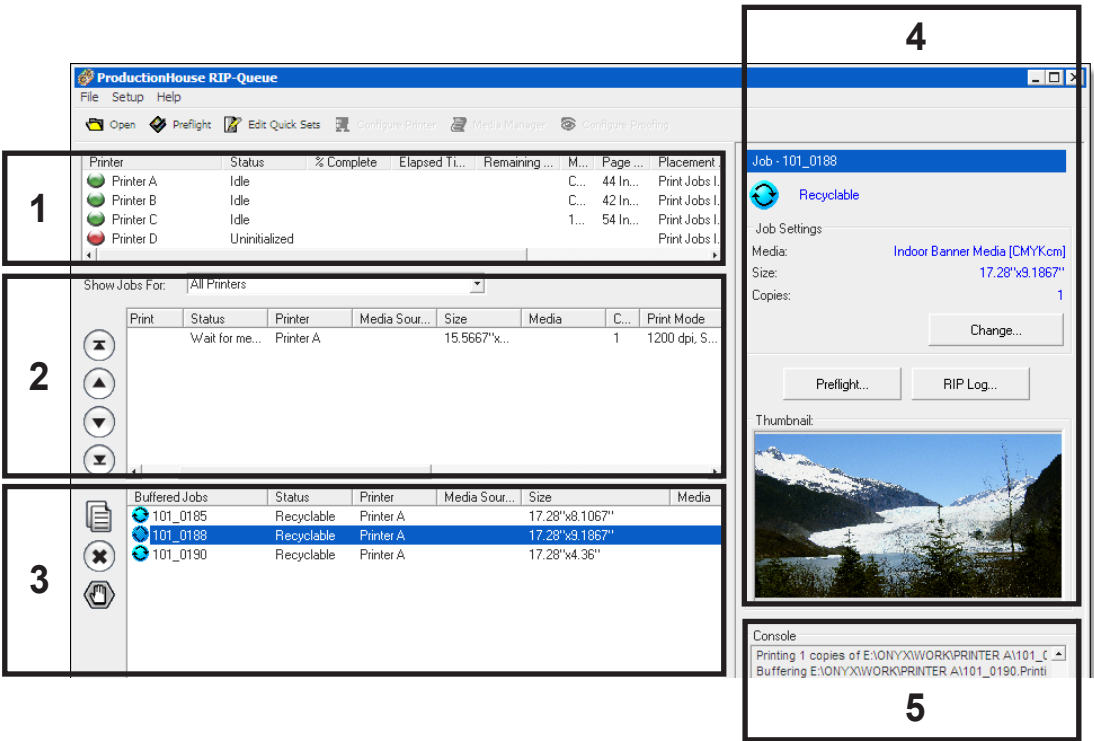
# User Guide for 7 Workflow Products

## RIP-Queue Navigation

The main RIP-Queue window is divided into five main areas:

- Printer Area (see 1)
- Jobs Ready to Print Area (see 2)
- Buffered Jobs Area (see 3)
- Information Area (see 4)
- Console (see 5)

Each area provides information relative to the area on the status of your printers, jobs, or software. You can modify many settings by right-clicking in each area.



# Setup & Printing

## Objectives

This chapter takes you through the basics of installing your software and printing. By the end of this chapter, you will be able to do the following:

- Install the software and printers
- Register the software
- Setup your printer
- Print an image
- Use a Quick Set
- Use Hot Folders

*These objectives may be covered in greater detail in other chapters and the Help Files in your program.*

## Installing Your Software

### To install the software:

1. Log on to your computer with Administrator Privileges.
2. Plug-in your Hardware Key to your computer.
3. Insert the **Program Disk** into your DVD drive. Once the **Install** window opens, review the install location, and click **Next**.
4. Read the **License Agreement**, check that you agree, and click **Install**. This begins the install (see Figure 1).
5. Once the install is complete, click **Finish** to exit the installation.

*If the software installation does not begin automatically, browse to your DVD drive and double-click it.*

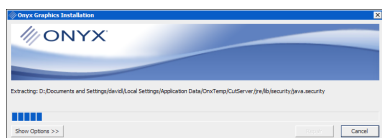


Figure 1—Install Screen

## Installing Your Printers

Your Hardware Key determines which printers are available to you. If the printer you want is not available, contact your sales representative for a Key Update. While you install the software only once, you can install additional printers and media at any time. You can open the Add Printer Wizard by clicking **Show Options** at the end of installation. If you need to install printers later, insert your Program Disk into the DVD drive. The wizard will open automatically.

## ➔ To install printers:

To download new media profiles, go to <http://www.onyx-gfx.com/download.pl>.

1. After the Add Printer Wizard opens, select the printers and media that you would like installed.
2. Click **Install**.
3. Once the program is installed, click **Finish**. The program will open automatically. You should immediately register your software and configure your printers.

## Configuring Your Printers

Each time you install or add a printer, the Configure Printer dialog will appear. This dialog only displays valid configuration options for your printer. If you do not know the type of port your printer uses, contact your printer manufacturer or your network administrator. If you need to reconfigure a printer, click **Configure Printer** on the main toolbar to open the Configure Printer dialog.

There are many types of ports available, but the most common are TCP/IP, USB, and Firewire.

### ➔ To configure a TCP/IP printer:

1. In the Configure Printer dialog, click the **Device** tab. Select the printer you want to configure, and click **Configure Port**. This opens the Configure Printer Port dialog.
2. Select **TCP/IP**, and click **Configure** (see Figure 2).
3. Enter your **IP Address** and change the **Data Type** to **<Port9100>**. Port9100 is the most commonly used port. For information on other port types, see the Help Files in the program.
4. Click **Test** to verify that the IP address is valid. Click **OK** to finish.

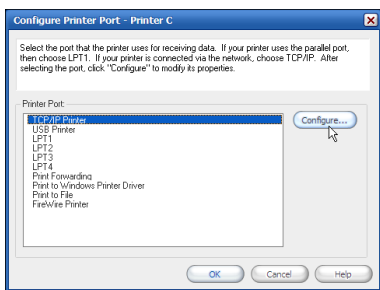


Figure 2—Configure Printer Port: TCP/IP

### ➔ To configure a USB printer:

1. In the Configure Printer dialog, click the **Device** tab. Select the printer you want to configure, and click **Configure Port**. This opens the Configure Printer Port dialog.
2. Select **USB Printer**, and click **Configure**.
3. Select your USB device from the available options, and click **OK** (see Figure 4).

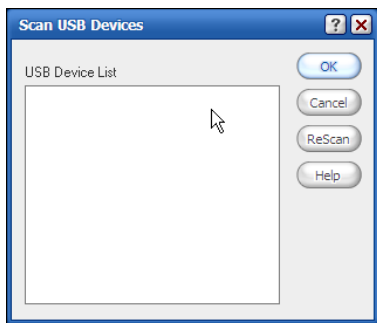


Figure 3—Configure Printer Port: USB or Firewire

### ➔ To configure a Firewire printer:

1. In the Configure Printer dialog, click the **Device** tab. Select the printer you want to configure, and click **Configure Port**. This opens the Configure Printer Port dialog.
2. Select **Firewire Printer**, and click **Configure**.
3. Select your Firewire device from the available options, and click **OK** (see Figure 3).

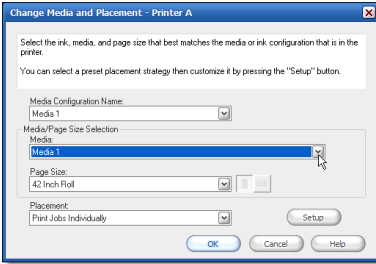


Figure 4—Change Media and Placement

## Setting Up Your Media

After you've configured your printer, verify that the media settings in the program match the media that is currently loaded in your printer.

### → To setup media:

1. If you have not already done so, load the media into your printer following your printer's instructions.
2. In the program, highlight the printer in the Printer area (top-left corner). The media and settings are displayed to the right of the printer.
3. If the information in the program matches your media, you are ready to print. If not, click **Change** on the right-side of the main screen. This opens the Change Media and Placement dialog (see Figure 4).
4. Use the drop-down arrows to select the options that match the media and page size options that you want to use. Click **Setup** to configure your placement options.
5. Click **OK** to complete setup.

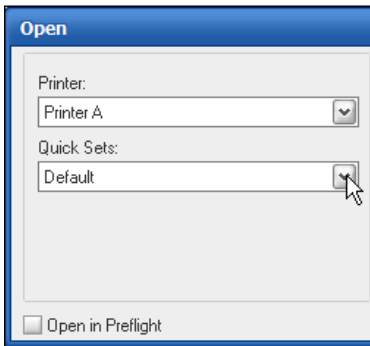


Figure 5—Open an Image

## Opening an Image

There are several ways to open an image.

### → To open an image using RIP-Queue:

1. Click **Open** on the toolbar, or click **File > Open**. This displays the Open dialog.
2. On the left-side of the dialog (see Figure 5), select which printer you want to use from the drop-down menu. If you have already created Quick Sets, select your **Quick Set**. If you have not, leave this setting as **Default**.
3. If you want to preview your image, check the **Open in Preflight** option.
4. On the right-side of the dialog (see Figure 6), browse to your image, highlight it, and click **Open**. The image will open and move to the Jobs Ready to Print area of the program window.

### → To open an image using Preflight:

1. In Preflight, click **Open** on the toolbar, or click **File > Open**. This displays the Open dialog.
2. On the left-side of the dialog (see Figure 5), select which printer you want to use from the drop-down menu. If you have already created Quick Sets, select your **Quick Set**. If you have not, leave this setting as **Default**.
3. If you want to apply the settings you used for your most recent job, check the **Apply Settings** option.

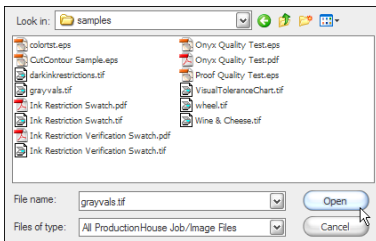


Figure 6—Open an Image



Preflight allows you to edit and modify your image. For more information, see the Preflight chapter.

4. On the right-side of the dialog (see Figure 6), browse to your image, highlight it, and click **Open**. The image will open in Preflight. From here, you can modify and edit your image.

When you have finished modifying your image in Preflight, you can send the image to RIP-Queue by clicking **File > Submit**.

## Printing an Image

Once you have opened an image into RIP-Queue and setup your printers and media, you are ready to print.

Printing is simple—Click on the image you want to print and drag it into the Jobs Ready to Print area of your window.

However, the job will not print if the media settings for the job do not match the media settings for the printer. If the media do not match, the job remains in the Waiting for Media state until you change the media type for the printer or the job so they match.

### ➔ To change the media for a job:

1. Highlight the job in the Jobs Ready to Print area. This displays information about the job in the Job Information area on the right.
2. Click **Change**. This opens the Job Properties dialog (see Figure 7).
3. Change the **Media Configuration Name**, **Media**, or **Page Size** to match the media that is currently loaded in the printer. Make sure that this media matches the media settings for your job.
4. Click **OK**.

*To help create an efficient workflow, RIP-Queue automatically prints jobs after they are processed.*

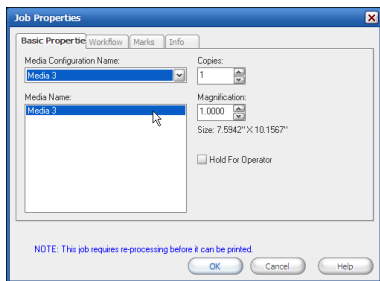


Figure 7—Job Properties

*Remember, if you make any changes, you must reprocess the job before you print it.*

*Whenever you change the media for your printer, always make sure to change the media settings in RIP-Queue. Doing this will prevent any problems with printing on incorrect media.*

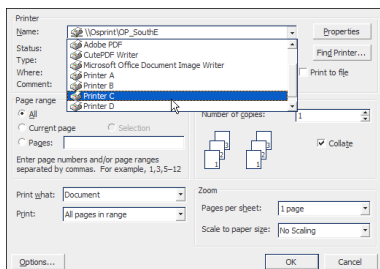


Figure 8—Virtual Printer

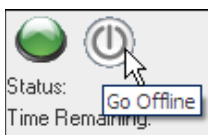


Figure 9—Online

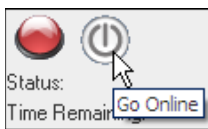


Figure 10—Offline



Figure 11—Hold

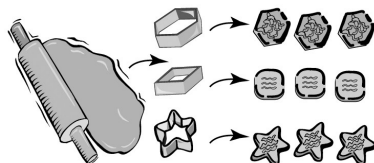


Figure 12—Cookie Cutters & Quick Sets

Once the Media for the job and the printer match, your image is ready to print. If your job does not print automatically, verify again that your media matches. If they match, you may need to select your printer and click the **Print Now** button located on the right-side of your screen.

## Virtual Printers

You can also print to RIP-Queue using Virtual Printers. A Virtual Printer is a RIP-Queue printer that is used as a Windows printer. When you install a printer, RIP-Queue automatically creates a Virtual Printer that can be used from any application. This lets you print to RIP-Queue from graphic design programs, word processors, internet browsers, or any other application. To use the Virtual Printer, click **File > Print** in your application, and select the **RIP-Queue virtual printer** (see Figure 8).

## Job Status

The icons located in the Printer Information area of the window indicate the status of the print. There are three different statuses: Online, Offline, and Hold.

- **Online**—indicated by a green sphere (see Figure 9). Clicking the purple button will send the printer offline.
- **Offline**—indicated by a red sphere (see Figure 10). Clicking the purple button will send the printer online.
- **Hold**—indicated by a hand (see Figure 11). The hold status shows that there is something stopping the print from continuing. Often this is an incorrect media setting or a Wait for Operator hold. If the hold is a Wait for Media hold, change your media settings. Otherwise, click the **Print Now** button.

## Using Quick Sets

A Quick Set is a tool that automatically applies certain settings to your jobs. Using Quick Sets is similar to using a cookie cutter. Cookie cutters create cookies with particular shapes in an efficient manner. Just as it would take a very long time to cut out perfect star patterns for each cookie using only a table knife, it would also take a very long time to set all your job settings or options for each image. More importantly, you can use different Quick Sets to apply different settings or options to different jobs much the same way you would use multiple cookie cutters to create different cookie shapes (see Figure 12).

Once you create and apply Quick Sets to your jobs, each job will have the correct settings right from the beginning. When you open an image,





*When you install the program, a generic Quick Set for your printer is created. This default Quick Set is similar to using only one cookie cutter—it can be useful, but you'll probably want to create your own for specialized workflows.*

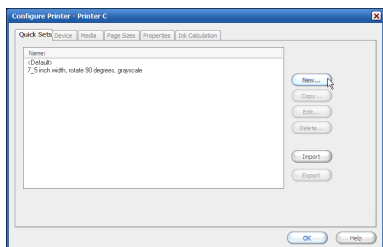


Figure 13—Quick Sets New



*When you create a Quick Set, a corresponding Hot Folder is created with those same Quick Set properties. For more information on Hot Folders, see the Help Files in your program.*

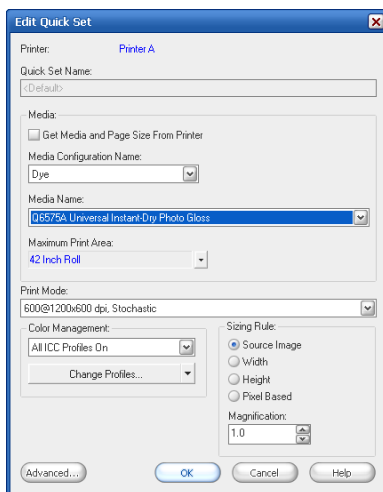


Figure 14—Edit Quick Set



*To learn more about profiles, see the Help Files in your program.*

you select which Quick Set to apply. If you need to modify a particular setting, you can do so in RIP-Queue or Preflight. If you don't need to modify any settings, you can go ahead and print. If you develop your Quick Sets well, you can dramatically increase your productivity.

## Creating a New Quick Set


### ➔ To create a new Quick Set:


1. In your program, highlight your printer, and click **Configure Printer**. This opens the Printer Configuration dialog.
2. Click the **Quick Sets** tab, then **New** (see Figure 13). This opens the Edit Quick Set dialog.
3. Set the options you want to use for this Quick Set. Click **Advanced...** if you want to set advanced options.
4. Click **OK**.

## Edit Quick Set Options

The Edit Quick Set dialog allows you to setup your Quick Sets to match your workflow needs (see Figure 14). The dialog lets you set the following options:

- **Quick Set Name**—this option determines the Quick Set name. Use a name that accurately represents your settings.
- **Media and Page Size**—this option automatically assigns the current media and page size for your printer to your jobs. If you do not use this option, you can specify your own settings in the Edit Quick Set dialog. Make sure that your settings match what is in your printer.
- **Print Mode**—the Print Mode consists of a predefined group of settings that make up a mode. Modes are specific to the printer and consist of a variety of settings.
- **Color Management**—lets you set which profiles your jobs will use. You can select from the drop-down list or click **Change Profiles** to set up your own.
- **Sizing Rule**—this option determines the size of the printed image. You can choose from Source Image, Width, Height, Pixel Based, or Magnification. Source Image maintains the size (or factor of the size) that the image file specifies. Width sets a standard width for each job. Height sets a standard height for each job. Pixel Based sizes the image by pixels. Magnification takes any of the previous settings and enlarges (or reduces) the image by that factor. If your image is larger than your page size, it is automatically reduced.

 The Sizing Rule can be restricted to the size of the media page. If the image does not fit on the page, the image will be shrunk to fit that page size unless you have Tiling enabled. For more information on Tiling, see the Help Files in your program.

 For more information on Advanced Quick Set options, see the Help Files in your program.

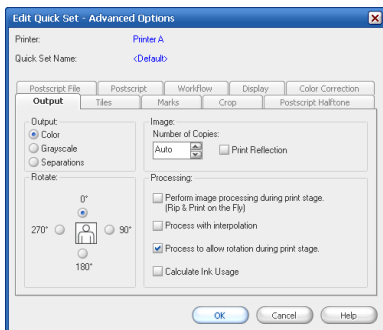



Figure 15—Output Options

 Processing only affects raster (pixel based) images.

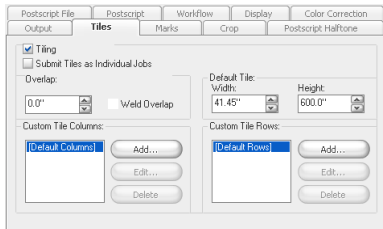


Figure 16—Tiling Options

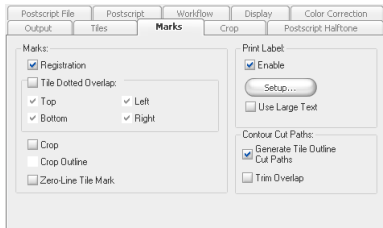


Figure 17—Marks Options

## Advanced Quick Set Options

Advanced Quick Set options let you control the settings that are typically only modified for uncommon situations or non-standard workflows. To access these options, click **Advanced** in the Edit Quick Set dialog.

### Output

The Output tab of the Advanced Quick Set options controls how RIP-Queue processes jobs (see Figure 15). You can set the following options:

- **Output**—this option determines what type of image output will be processed. You can choose from Color, Grayscale, and Separations.
- **Rotate**—this option allows you to rotate your image by increments of 90°.
- **Image**—this option allows you to set the number of copies you would like to print as well as print reflections (a mirror image of the original file).
- **Processing**—this option determines your processing settings. You can set the program to Perform Image Processing During Print Stage, Process with Interpolation, Process to allow rotation during print stage, and Calculate Ink Usage. These options improve your workflow and help you be more efficient.

### Tiling

The Tiling tab lets you separate a job into two or more pieces (see Figure 16). Typically, you use this option to print images larger than your media or for display and mounting purposes. This option should only be used if you want your Quick Set to tile every image the same way. For more information, see the Help Files in your program.

### Marks

Marks are special lines that are printed to aid in trimming, measuring, or welding the image after it has printed (see Figure 17). The Marks tab allows you to set various types of marks as well as the Print Label. For more information, see the Help Files in your program.

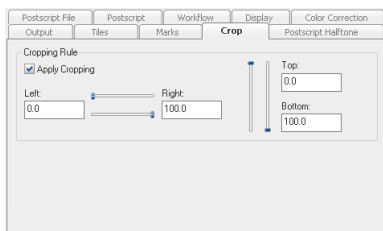


Figure 18—Crop Options

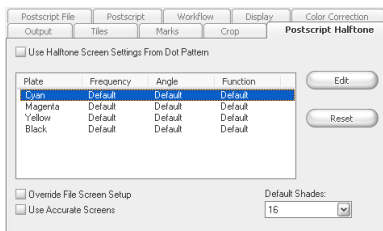


Figure 19—PostScript Halftone Options

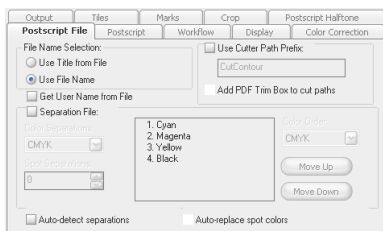


Figure 20—PostScript File Options

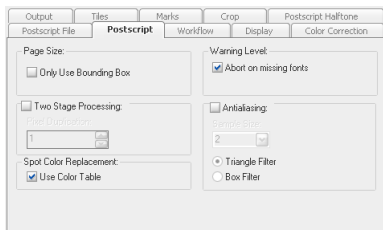


Figure 21—PostScript Options

## Crop

The Crop option lets you set a pre-defined area of each image that will not be printed (see Figure 18). This option should only be used if you want your Quick Set to crop every image the same way.

## PostScript Halftone

The PostScript Halftone options determine how your halftone screens are processed (see Figure 19). These options only apply to PostScript images using the Halftone Dot Pattern. For more information, see the Help Files in your program.

## PostScript File

The PostScript File tab controls the file name and separation options that pertain to PostScript files (see Figure 20). If you do not use PostScript files, these options are not used.

- **File Name Selection**—this option determines whether you use the image file name or the file's embedded title as the name of the image in RIP-Queue.
- **Use Cutter Path Prefix**—this option defines the spot channel name prefix of a PostScript file that has been prepared for contour cutting. For more information, see the Help Files in your program.
- **Separations**—this option determines how RIP-Queue processes and prints separations. These options must be configured properly for the image to process correctly. This option should only be used if your Quick Set uses separated PostScript files with the same options every time.
- **Auto Detect**—this option automatically detects the configuration of a PostScript Separated file.

## PostScript

The PostScript tab controls the job options that pertain to PostScript files (see Figure 21). If you do not use PostScript files, these options are not used.

- **Page Size**—PostScript files use an element called a bounding box. This is a specific rectangular area of an image. Usually, the bounding box is the same size as the image; however, some images use a larger box for margins or a smaller box for cropping. To print the area defined by the bounding box, select the **Only Use Bounding Box** option.

Using a duplication factor of 2 or higher can greatly reduce processing time, but may cause image degradation.



Figure 22—Anti-Aliasing (left—anti-aliasing applied)

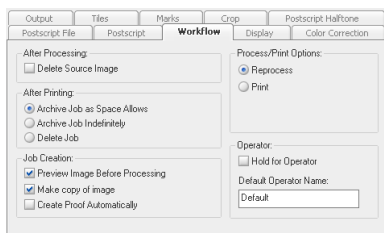


Figure 23—Workflow Options

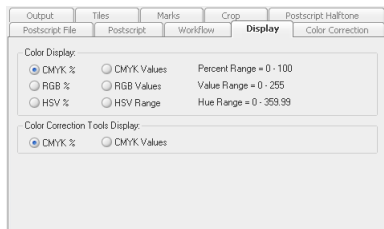


Figure 24—Display Options

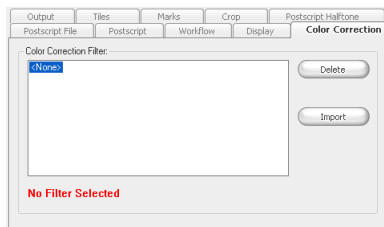


Figure 25—Color Correction Options

- **Warning Level**—use this option if you want the program to abort the job if you have a missing font. If you disable this option, the job will be processed with a substitute font.
- **Two Stage Processing**—this option converts your PostScript file to a raster image. You can then further modify the raster image. The Pixel Duplication option processes the image at a smaller resolution and then copies the pixels to achieve the correct output resolution.
- **Anti-Aliasing**—this option smooths areas in your image that appear jagged. This can improve the appearance of low resolution images (see Figure 22).
- **Spot Color Replacement**—this option lets you apply the spot color specifications defined in the Color Matching Table. The Table allows you to share colors you created in your graphics creation program with your printer.

## Workflow

The Workflow tab determines how images and jobs are handled (see Figure 23). For more information, see the Help Files in your program.

## Display

The Display tab allows you to set the Color Display settings for a job (see Figure 24). Use these options to modify how the program displays color information.

- **Color Display**—these options set the display you want to use for sample point values. They do not affect the display for Color Correction tools.
- **Color Correction Tools Display**—this option determines if you use CMYK values (0-255) or percentages (0-100). This becomes the default setting for the Primary Color Curves and Color Replacement dialogs in Preflight.

## Color Correction


The Color Correction tab assigns a Color Correction Filter to all jobs using a particular Quick Set (see Figure 25). Click **Import** to add an additional filter. For more information, see the Help Files in your program.

## Managing Quick Sets

Managing Quick Sets alters the printer setup. Because of this, the program cannot process or print jobs while you modify the Quick Sets. Make sure that you are not processing or printing a job before managing Quick Sets.

### → To edit a Quick Set:

1. In the printer area of the main window, highlight the printer that uses the Quick Set that you want to modify.
2. Click **Edit Quick Sets** in the toolbar. This opens the Edit Quick Sets dialog.
3. Highlight the Quick Set you want to modify, and click **Edit**.
4. Modify the Quick Set options.

 *Editing a Quick Set in this manner does not interrupt processing and printing.*

### → To rename a Quick Set:

1. In the printer area of the main window, highlight the printer that uses the Quick Set that you want to rename.
2. Click **Configure Printer** on the toolbar. This opens the Configure Printer dialog (see Figure 26).
3. From the Quick Sets tab, highlight the Quick Set you want to rename, and click **Edit**.
4. Change the name of the Quick Set. The Default Quick Set cannot be renamed.

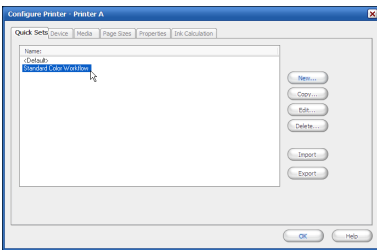


Figure 26—Configure Printer Dialog

### → To copy a Quick Set:

1. In the printer area of the main window, highlight the printer that uses the Quick Set that you want to copy.
2. Click **Configure Printer** on the toolbar. This opens the Configure Printer dialog (see Figure 26).
3. From the Quick Sets tab, highlight the Quick Set you want to copy, and click **Copy**. A new Quick Set with the same name plus a number appears in the Quick Set list. To change the name, click **Edit**.

### → To delete a Quick Set:

1. In the printer area of the main window, highlight the printer that uses the Quick Set that you want to delete.
2. Click **Configure Printer** on the toolbar. This opens the Configure Printer dialog (see Figure 26).
3. From the Quick Sets tab, highlight the Quick Set you want to delete, and click **Delete**. You cannot delete the Default Quick Set.

### ➔ To export a Quick Set:

1. In the printer area of the main window, highlight the printer that uses the Quick Set that you want to export.
2. Click **Configure Printer** on the toolbar. This opens the Configure Printer dialog (see Figure 26).
3. From the Quick Sets tab, highlight the Quick Set that you want export, and click **Export**.
4. Browse to the location where you want to save the Quick Set, specify a name for the Quick Set, and click **Save**.

### ➔ To import a Quick Set:

1. In the printer area of the main window, highlight the printer that will use the Quick Set that you want to import.
2. Click **Configure Printer** on the toolbar. This opens the Configure Printer dialog (see Figure 26).
3. From the Quick Sets tab, click **Import**.
4. Browse to the Quick Set you want to import, and click **Open**.

## Using Hot Folders

A Hot Folder is a special folder that automatically assigns Quick Set options to a job. Each Quick Set you create has a corresponding Hot Folder that is automatically created. When the program is running, RIP-Queue constantly monitors all of your Hot Folders for image files. When an image is placed into a Hot Folder, the program moves it out of the Hot Folder and into the queue where the image is processed and printed using the Quick Set options associated with that Hot Folder.

Hot Folders are located in the Input folder in your program files. Because RIP-Queue automatically shares the Input folder, you can copy image files into a Hot Folder from any network system (Windows, Mac, Linux, and so forth). RIP-Queue then processes and prints each image using the Quick Set properties of that Hot Folder.

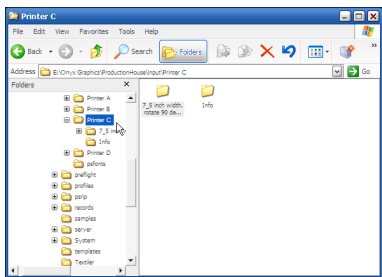


Figure 27—Hot Folders

### ➔ To drop images into a Hot Folder:

1. Open the folder where your images are located.
2. Copy them by right-clicking on them and selecting **Copy**.
3. In your program files, find the **Input** folder, and select the printer you want to use. This opens the Hot Folders associated with that printer (see Figure 27).
4. Paste your image files directly into the Hot Folder you want to use. The images appear in RIP-Queue and begin processing according to the properties of that Hot Folder's Quick Set.



*Copying files into the Info Folder or modifying the files that already reside in the Info Folder can cause errors in RIP-Queue.*

The Info Folder is not a Hot Folder. It is a special RIP-Queue folder that contains printer configuration settings.

## ***Trouble Shooting Hot Folders***

If RIP-Queue does not automatically process images dropped in a Hot Folder, check the following:

- Does your Hardware Key have Hot Folders enabled? Check the Hardware Key using the Hardware Key dialog (**File > View > Hardware Key**) and verify that Hot Folders is enabled in your Key tree. If it is not, contact your sales representative for an update.
- Are the images valid (supported) image files? Try opening them in RIP-Queue using **File > Open**.
- Is RIP-Queue running? The Hot Folders are only active when the RIP-Queue application is running.
- Are the image files read-only? RIP-Queue cannot process read-only images.

### **➔ To remove read-only restrictions from a file:**

1. *Highlight the image files in Windows Explorer.*
2. *Right-click the files.*
3. **Select Properties.**
4. **Uncheck the Read-Only checkbox.**



*If you do not have Preflight, contact your sales representative for a Key Update.*

## Objectives

This chapter will take you through the basics of using Preflight. By the end of this chapter, you will have an understanding of the following:

- Opening images in Preflight
- Modifying basic job options
- Adjusting color using Color Correction
- Modifying the image setup
- Using the Printer Manager

## What is Preflight?

Preflight allows you to view and modify jobs before they are printed in RIP-Queue. Preflight is not a required step to process and print a job, but it is a useful tool when jobs need to be modified. Preflight can also import images directly from a scanner or digital camera and preview color corrections and ICC profiles.

## Opening Images in Preflight

You can bring an image into Preflight using any of the following ways:

- File > Open in Preflight
- File > Open from RIP-Queue
- Import into Preflight
- Preflight button in RIP-Queue

### ➔ To open an image using File > Open in Preflight

1. Select **Open** from the File menu. This displays the Open dialog.
2. Browse to and highlight your image.
3. Choose a printer from the Printer drop-down menu.
4. Select a **Quick Set** from the Quick Set drop-down menu.
5. Click **Open**.




## ➔ To open an image using File > Open in RIP-Queue

1. Click **File > Open** from the File menu. This displays the Open dialog.
2. Browse to and highlight your image.
3. Choose a printer from the Printer drop-down menu.
4. Choose a **Quick Set** from the Quick Set drop-down menu.
5. Click the **Open in Preflight** option in the lower left corner of the dialog.
6. Click **Open**.

The job opens in Preflight and displays in the Jobs Ready to Print area of the RIP-Queue window with a status of Busy. Once you submit the job from Preflight, RIP-Queue will process and print it.

## ➔ To open an image by importing it into Preflight

1. Click **File > Twain32 > Select Source** from the File menu. This opens the Select Source dialog.
2. Highlight the device you want to use, and click **Select**. This becomes your default source. You can change it by selecting a different device.
3. Click **File > Twain32 > Acquire** to display the Acquire Twain dialog.
4. Browse to and highlight your image.
5. Choose a printer from the Printer drop-down menu.
6. Choose a **Quick Set** from the Quick Set drop-down menu.
7. Click **Open**.



*If your device is not listed, reinstall the Twain drivers for your device. For more information, see your device's user manual.*

## ➔ To open an image using the Preflight button in RIP-Queue

1. Highlight the job in RIP-Queue.
2. Click **Preflight** on the right-side of the program window.

RIP-Queue sends the job to Preflight along with the job settings, and the job displays in the Jobs Ready to Print area with a status of Busy. Once you submit the job from Preflight, RIP-Queue will process and print it.

## Modifying Basic Job Options

Preflight allows you to modify many of the characteristics of your job using the tabs across the top of the Preflight window. These tabs are Printer & Media, Preview & Size, Tiling Setup, Color Correction, and Print. After you have modified your job, click the **Print** tab and **Submit** to send the job back to RIP-Queue for printing.

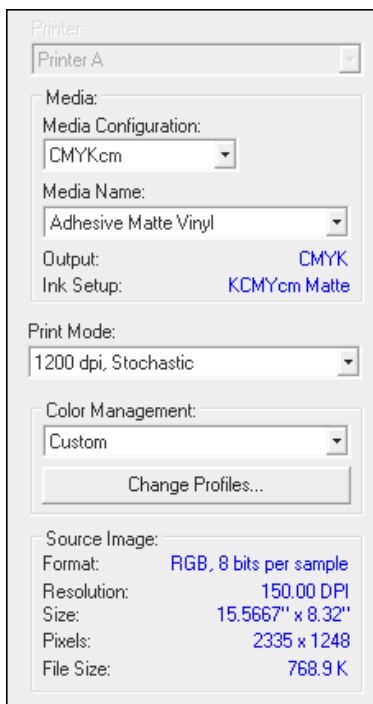


Figure 1—Printer & Media Tab

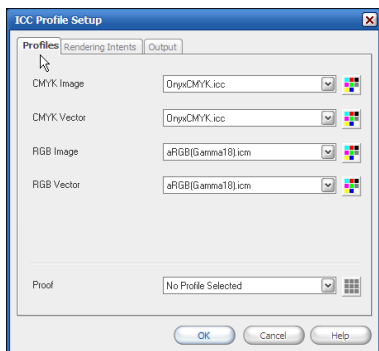


Figure 2—ICC Profile Setup

## Printer & Media Tab

The Printer & Media tab is used to set your media and mode (see Figure 1). You can also see which printer you are using and some basic information about your job.

### ➔To change the media for a job:

1. Click the **Printer & Media** tab.
2. Use the drop-down arrows to change your **Media Configuration** and **Media Name**.

### ➔To set your mode:

1. Click the **Printer & Media** tab.
2. Use the drop-down arrows to set your **Print Mode** settings. **Print Mode** includes your resolution, dot pattern, and color management settings.

The Color Management setup of a job allows you to control whether or not the program applies ICC Profiles to the job. It also allows you to select which ICC Profile, if any, the program applies for each color space. For more information, see the Help Files in your program.

### ➔To set a Color Management option:

1. Select the **Printer & Media** tab.
2. Under **Mode**, choose the **Color Management** option that best fits your workflow.
3. If you want to customize the profile setup, click **Change Profiles**. This opens the **ICC Profile Setup** dialog (see Figure 2). Select the input profiles, output profiles, and rendering intents you want to use, and click **OK**.

## Preview & Size Tab

The Preview & Size tab allows you to crop, size, and rotate your jobs.

### Cropping Your Image

Cropping an image selects a rectangular portion of the image to print. The portion not included in the rectangular area is not printed. You can crop an image using your mouse or Origin and Size values.

### ➔To crop an image using your mouse:

1. In the **Preview and Size** tab, place your cursor on the edge of your image. The cursor will change into a line with two opposing arrows.

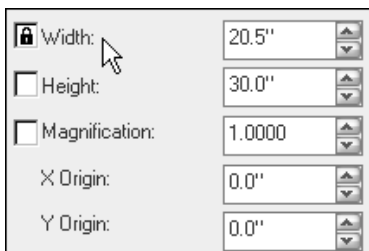


Figure 3—Crop Using Origin and Size Values



Experiment with locking and unlocking the value checkboxes to see what different effects you can create. You can lock more than one box at a time.



If you want to create an image larger than your page size, enable Tiling in the Tiling tab. See the Tiling section of this chapter for more information.

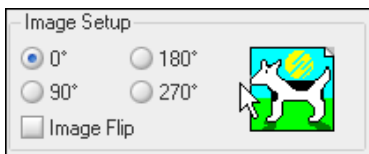


Figure 4—Rotate or Flip an Image



Rotating and flipping images can take several minutes depending on the size of the file.

2. Click and drag the dotted line until it defines the area you want to print. You can move the print area by clicking inside the box and dragging it to a new location.
3. Click **Apply**.

## Cropping Using Origin and Size Values

Using Origin and Size values to crop your image lets you specify an exact width, height, or magnification for your image (see Figure 3). Each of these values can be locked to a specific size. To lock a value, click on the checkbox next to each value. You can also use the Size values to enlarge or shrink your image.

### ➔ To crop an image using origin and size values:

1. In the **Preview and Size** tab, lock any values that you want to remain fixed.
2. Enter the values that you want to modify in the appropriate boxes.

### ➔ To change the size of a job:

1. Select the **Preview & Size** tab.
2. Choose your **Maximum Printer Area** by clicking the down-arrow and selecting the size you want. Typically this is the page size loaded into the printer.
3. Click **OK**.
4. Change the width, height, or magnification of your image. When you modify one value, the other values will change to maintain the image proportions. If you want to lock any value, click the **Lock** box next to the value.

## Rotating Your Image

You can rotate your image by 90° increments using the Image Setup area of the Preview and Size tab. To rotate an image, select the rotation you want to use, and click **Apply**. You can also flip an image by selecting **Flip Image** (see Figure 4).

## Tiling Setup Tab

The Tiling Setup tab in Preflight lets you set tiling options. Tiling separates a job into two or more pieces and lets you print an image larger than your page size or break an image into specific sizes for display or mounting purposes.

## Enabling Tiles

To enable tiles, select the **Tiling Setup** tab, and check the **Enable Tiling** option. Activating this option allows you to choose any width for your image. If you disable tiling, Preflight restricts the image to a single tile where the maximum width is equal to the Maximum Print Area selected for your job. You can set the tile width and height in the Default Tile area by entering values into the Width and Height fields or using the down arrows.

## Printing with Tiles

If tiling is enabled and your output exceeds the maximum print width or height of your printer, the program will automatically break the image into tiles. Because each tile is considered a separate piece, you can print or re-print any tile you want. You can even process tiles individually by clicking the **Rip Tiles Individually** checkbox.

### ➔ To print specific tiles:

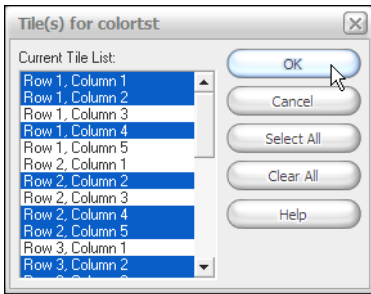


Figure 5—Tile Dialog

1. After enabling and setting up your tiles, click **Tile Setup** from the **Print** tab. This opens the Tiles dialog.
2. Select the tiles you want to print, and click **OK** (see Figure 5). By default, all the tiles are selected for printing.

## Adjusting Tiles

When you choose a print size larger than the maximum page size for your printer, the image preview displays dotted tile lines inside the image. You can adjust these lines to create tiles of varying size. Making adjustments to a single tile affects all the tiles in that same row or column.

### ➔ To create custom tiles:

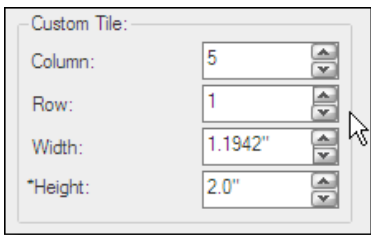



Figure 6—Custom Tile

1. In the **Tiling Setup** tab, enable **Tiles**, and click on the tile you want to adjust.
2. In the **Custom Tile** area (see Figure 6), enter the new **Width** and **Height** values for the tile. You can also click on the tile line in the image and drag it to a new location.

If you want to cancel any adjustments, click **Reset All Tiles** at the bottom of the **Tile Setup** tab. This restores all tiles to the default values listed for the Default Tile.

## Overlapping Tiles

You can set tiles to overlap between connecting tiles. This adds a repeated portion of the image between the tiles and makes it easier to properly align the printed tiles.

 Remember that changing a tile line affects all the tiles in that row or column.

Overlap has the following attributes:

- Applies to every tile
- Works the same both vertically and horizontally
- Is applied when the image is printed
- Available only if the image has more than one tile
- Does not affect tile size; tiles are measured from the center of the overlap to the center of the next overlap.

### ➔ To set an overlap:

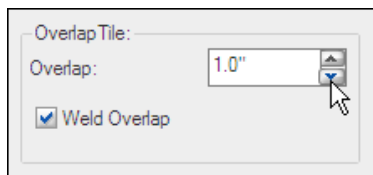


Figure 7—Overlap

1. In the **Tiling Setup** tab, select the **Overlap** option (see Figure 7).
2. Enter the **overlap** value, or use the up and down arrows to set your value.

The overlap is divided equally to both sides of the tile. If you set your overlap to one inch, each inside edge of the tile will print half an inch of the adjoining tile. Outside edges will have no overlap.

## Setting Weld Overlap

Welding is the process by which tiles are joined together. This can become difficult if there is ink on the portion of the media you want to weld because the ink inhibits the adhesive from making a perfect bond. The Weld Overlap option reserves a small portion of the overlap area as blank and does not place any ink in this area. This leaves a clean surface on which to apply the welding adhesive.


You can activate Weld Overlap by selecting the **Weld Overlap** option in the Tiling tab.

## Color Correction Tab

The Color Correction tab allows you to adjust the color in your image using several tools: Primary Color Levels, Color/Gray Levels, White/Black Limits, Color Replacement, and Spot Layer. It also allows you to apply color correction filters and view different color correction options.

### Primary Color Levels

The Primary Color Levels tool allows you to modify the amount of saturation each primary color channel uses. You can access this tool by clicking **Tools** in the Color Correction tab and then selecting **Primary Color Levels**.

 Weld Overlap is only available if your overlap is set to at least half an inch.

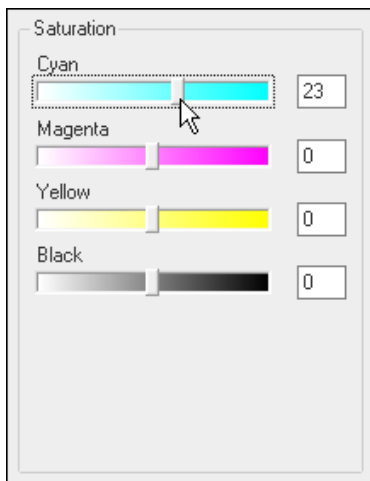


Figure 8—Saturation



Figure 9—Primary Color Curves

## Adjusting Saturation

You can adjust the saturation of each primary color channel by moving the saturation sliders left or right (see Figure 8). This tool modifies the values in the mid-range more than those at the extreme high or low. This creates a smooth curve that bows from the normal values. As you modify each saturation value, your preview image will change to reflect your modifications.

## Primary Color Curves

The Primary Color Curves tool allows you to modify the amount of ink printed at any specific level. This differs from the Color Levels tool in that Color Curves lets you modify specific areas of color such as highlights and shadows. Color Levels on the other hand affects the entire range of color equally. Click **Primary Color Curves** in the Color Correction tab to open this tool (see Figure 9). This tool displays a curve for each primary color.

The two axes for CMYK color correction curves represent input and output color densities. The x-axis represents input density and the y-axis represents output density. These values, based on the location of the cursor, are shown above the curve window as *Before* and *After* values respectively.

### ➔ To modify a Primary Color Curve:


1. In the *Edit Channel* window, mark each color that you want to modify. You can modify multiple colors at the same time, or you can modify individual colors (see Figure 9).
2. Click and drag in the curve window to create your curve. Depending on your settings, you can create several types of curves. For more information on Primary Color Curves, please see the *Help Files* in your program.


## Color/Gray Levels

The Color/Gray Levels tool allows you to adjust the color composition of an image by altering the contrast, brightness, and saturation of your colors and the highlights, mid-tones, and shadows of your grays. Click **Tools** in the Color Correction tab and then select **Color/Gray Levels** to open this tool (see Figure 10).

## Color Levels

Color Levels allow you to modify the attributes of all the colors in your image. These controls are similar to the controls on your television set.

 You should not use the Primary Color Curves tool for color replacement.

 Color/Gray Levels only modify the K value of a color sample. If there is no K present, this tool will have no effect.

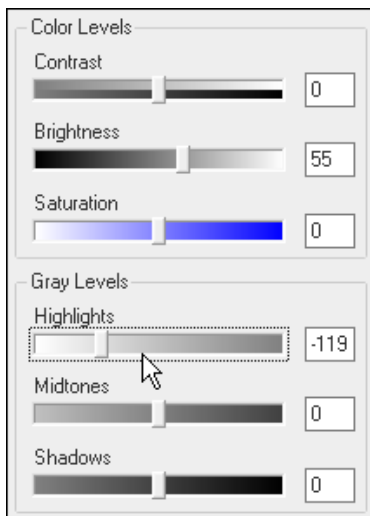


Figure 10—Color/Gray Levels

They do not change the actual color, but they can shift the color from light to dark and dark to light. There are three controls: Contrast, Brightness, and Saturation.

- **Contrast**—this control adjusts the contrast of your image, making darks darker and lights lighter. Increasing the contrast increases the difference between your dark and light values; decreasing the contrast decreases the difference.
- **Brightness**—this control adjusts the brightness of your image by changing the amount of K in all the colors of your image. Increasing the brightness lowers the amount of K; decreasing the brightness raises the amount of K.
- **Saturation**—this control adjusts how much color there is in your image. Increasing the saturation adds more color to your image; decreasing the saturation reduces the amount of color. This tool does not affect the amount of K in your image.

### ➡ To modify Color Levels:

1. Click **Tools > Color/Gray Levels** in the *Color Correction* tab. This opens the *Color/Gray Levels* tool (see Figure 10).
2. In the *Color Levels* area, click and drag each value to your desired value, or enter the value into the value box.

## Gray Levels

Gray Levels allow you to modify the K level of an image in three different ranges: highlights, mid-tones, and shadows, by changing the amount of K in an image.

Increasing the value increases the amount of black; decreasing the value decreases the amount of black.

- **Highlights**—this control adjusts the amount of black in the lighter tones of your image.
- **Mid-Tones**—this control adjusts the amount of black in the middle tones of your image
- **Shadows**—this control adjusts the amount of black in the darker tones of your image.

## White/Black Limits

The White/Black Limits tool lets you clean up your image without introducing contrast. This tool was developed primarily to clean up scanned images. When an image is scanned, the white and black values do not appear as true white and black. Setting White/Black Limits fixes this prob-

lem and balances the other colors. Because White/Black Limits control the lightness of the color value averages instead of controlling the inks, this tool uses RGB values instead of CMYK.

## Color Limit

The Color Limit tool automatically sets the White and Black limits from a selected color range (see Figure 11). Click **Tools** in the Color Correction tab and then **White/Black Limits** to open this tool. Select the **Color Limit** option and click the **A** button. This will automatically set the Color Limit. You can also adjust the color limit by entering values into the number boxes, or by using the up and down arrows.

Clicking the A button takes the average of all RGB values in the image and moves the white and black points in 5% of the total pixels in the image. This means that the lightest 5% of pixels are all set to white, and the darkest 5% of all pixels are set to black, effectively reducing the gamma range by 10%.

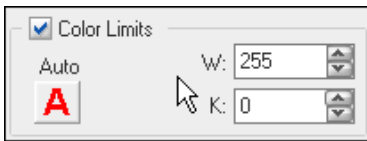


Figure 11—Color Limit

*The Color Limit, Black Limit, and White Limit tools are additive tools. If you use these tools together, your image can become much darker or lighter than intended.*

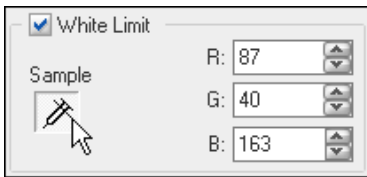


Figure 12—White Limit

## White Limit

The White Limit lets you manually set the white point of your image by selecting the pixels in your image that best represent white (see Figure 12). Click **Tools** in the Color Correction tab and then **White/Black Limits** to open this tool. Select the **White Limit** option, and click the **Sample** button. With your cursor, click the lightest point of your image or on a color that you want to make the lightest point. This will change all the colors equal to or lighter than the color you selected to white. You can also modify the White Limit by entering values into the R, G, and B boxes, or by using the up and down arrows.

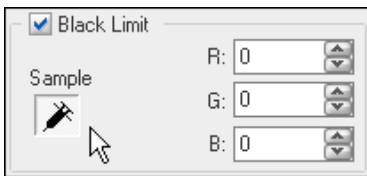


Figure 13—Black Limit

## Black Limit

The Black Limit lets you manually set the black point of your image by selecting the pixels in your image that best represent black (see Figure 13). Click **Tools** in the Color Correction tab and then **White/Black Limits** to open this tool. Select the **Black Limit** option, and click the **Sample** button. With your cursor, click the darkest point of your image or on a color that you want to make the darkest point. This will change all the colors equal to or darker than the color you selected to black. You can also modify the Black Limit by entering values into the R, G, and B boxes, or by using the up and down arrows.



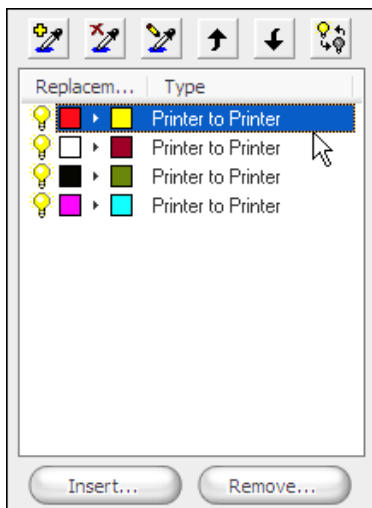


Figure 14—Color Replacement

*An empty filter is automatically created when a job is first opened in Preflight.*

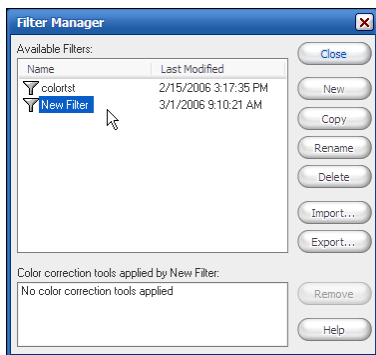


Figure 15—Filter Manager

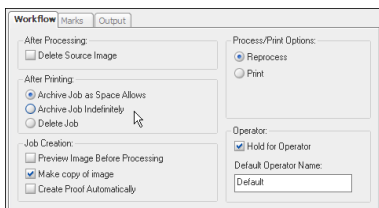


Figure 16—Workflow Options

## Color Replacement

The Color Replacement tool allows you to change the colors of a job by substituting one color for another (see Figure 14). Click **Tools** in the Color Correction tab and then **Color Replacements** to open this tool. For more information, see the Help Files in your program.

## Filters

A color correction filter is a file that modifies the color of a job. Think of a filter as a pane of colored glass—if you place it on top of the image, it changes the colors in the image.

A job can only have one color correction filter applied, but that filter can contain multiple filters. Each filter can have one or more color correction tools. If it has none, it is an empty filter.

### ➔ To create a filter:

1. Click **File > Filter Manager** (see Figure 15).
2. Click **New**.
3. Enter a name for your filter.
4. Click **Close**.

## Print Tab

### Print Setup

Print Setup allows you to set Workflow, Marks, and Output options. These options determine how the program will process and print your jobs. To access these options, select the **Print** tab, and click **Print Setup**.

### Setting Workflow Options

Workflow Options allows you to set the following workflow options (see Figure 16):

#### After Processing

- **Delete Source Image**—this option deletes the source image after processing. This does not delete the job, and you can still reprint the job. However, you cannot reprocess the job.

#### After Printing

- **Archive Job as Space Allows**—this option moves printed jobs to the Recycled Jobs area. These jobs will be deleted as needed to obtain additional hard disk space to process incoming jobs.

- **Archive Jobs Indefinitely**—this option moves jobs to the Recycled Jobs area. Even if additional hard disk space is required, archived jobs will not be deleted.
- **Delete Jobs**—this option automatically deletes jobs after they are printed. You cannot retrieve, restore, or reprint deleted jobs.

## Job Creation

- **Preview Image Before Processing**—this option automatically creates a preview of your jobs before they print.
- **Make Copy of Image**—this option copies the source file to the work folder instead of referencing the location of the image. If you are dealing with extremely large files, you may want to disable this option.
- **Create Proof Automatically**—this option automatically sends a copy of the job to a different printer as a proof. To use this feature, you must have the Proof Workflow feature on your Hardware Key, and you must configure a proofing printer. Contact your sales representative if you do not have this feature.

*For more information on proofing, see the Help Files in your program.*

## Process/Print Options

- **Reprocess**—this option reprocesses the job each time it is printed.
- **Print**—this option prints the job without reprocessing.

## Operator

- **Hold for Operator**—this option will stop a job from printing until an operator chooses to print the job. Each job will appear in the Jobs Ready to Print area of the program with a hold status. You can print the job by highlighting it, and clicking the **Hold** icon.
- **Default Operator Name**—this option allows you to set user names for each job. RIP-Queue displays the user name in the User column of the queue. If you have multiple users sending jobs from various systems, this helps you determine where each job is coming from.

## Marks Options

Marks are special lines that print with the image to aid in trimming or measuring the final output. The Marks option also lets you set Print Label options (see Figure 17).

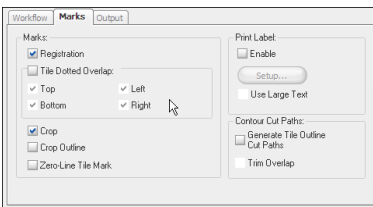


Figure 17—Marks Options

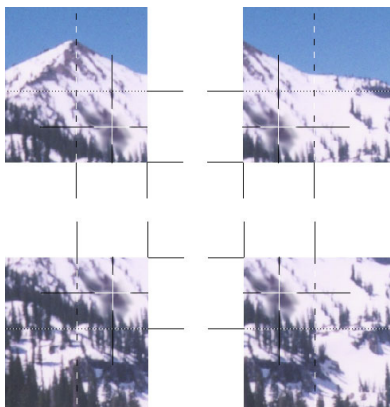


Figure 18—Zero-Line Tile Marks



Figure 19—Crop Marks



Figure 20—Crop Outlines

## Registration Marks

Registration Marks print a crosshair at each corner of the image. These help ensure that the image is straight on each side when trimming.

## Tile Dotted Overlap

Tile Dotted Overlap marks are used when tiling an image with an overlap. These marks show where the overlap begins and ends to help you combine tiles easily. When piecing the tiles together, the Tile Dotted Overlap Mark of one tile overlays the corresponding mark on the adjacent tile.

## Zero-Line Tile Marks

Zero-Line Tile Marks print a black crosshair with a white inner portion in the middle of the tile overlap area (see Figure 18).

## Crop Marks

Crop Marks are quarter-inch right-angle marks that are placed on the edges of each corner of the image. Because that same area is used for Registration Marks, Crop Marks do not have any effect if you are already using Registration Marks (see Figure 19).

## Crop Outline

Crop Outlines are a solid line (1 pixel wide) printed on the border of an entire image. Because Crop Outlines use the same area as Crop Marks, Crop Marks do not have any effect when using Crop Outlines (see Figure 20).

## Print Label

The Print Label option allows you to print job information at the end of the printed image. For example, the print label can contain information such as when the job was processed and printed; what type of ink, media, media configuration, and resolution; and the name of the file. Check the **Use Large Text** option to print the label using 22.5 pt. font instead of the default setting of 7.5 pt.

## Contour Cut Paths

Enable the Generate Tile Outline Cut Paths checkbox to cut around the border of an image. The Trim Overlap option cuts on the Zero-Line Tile Mark if you have tiled your image using an overlap. These features only apply if you are using a contour cutting device.

For more information on the **Print Label** and **Contour Cutting** features, see the *Help Files* in your program.

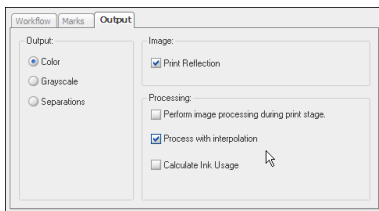


Figure 21—Output Options

## Output Options

The Output tab controls how RIP-Queue processes jobs. This tab is divided into three sections: Output, Image, and Processing (see Figure 21).

### Output

The Output section determines the type of image output that RIP-Queue processes. You can choose any of the following options:

- **Color**—this option, the default, creates color output.
- **Grayscale**—this option creates black and white output using only the black channel of your printer.
- **Separations**—this option creates a black and white representation of each color channel. If the primary color setup is CMYK, Separations will print four images; if you configure your media for CMYKOG, Separations will print six images.

### Image

The Image section allows you to print the job as a mirror image of the original file. This option is typically used when printing on backlit or transparent media.

### Processing

The Processing section allows you to control how the image is processed.

- **Perform Image Processing During Print Stage (Rip & Print on the Fly)**—this option processes the image while the data is being sent to the printer. If you disable this option, the image will be processed first and then sent to the printer. Use the Print Jobs Individually placement strategy when this feature is enabled.
- **Process with Interpolation**—this option softens jagged edges of low-resolution images. Although this option will not adversely affect high-resolution images, it does increase the processing time.
- **Process to allow rotation during print stage**—This option automatically rotates images for a job to create the best fit to save media.
- **Calculate Ink Usage** - This option calculates the amount of ink that is used for a job

## Manage Printers

Because Preflight does not print directly to a printer, use Printer Manager to add or delete RIP-Queue printers for use by Preflight. Click **File > Printer Manager** to open the Printer Manager (see Figure 22).

*Printing in Grayscale can create a speckled appearance to your image. To fix this, convert your image to grayscale using an image editor program and then print it using the Color output option.*

*Processing options are only available if you are modifying a raster image.*

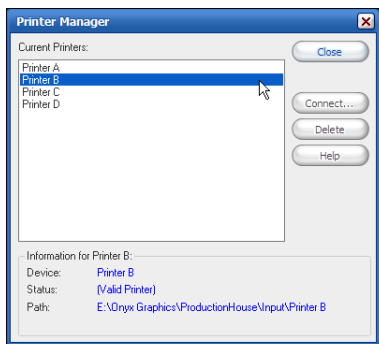


Figure 22—Printer Manager

Adding a printer is not the same as installing a printer. To learn how to install a printer, see chapter 1.

When you install printers, RIP-Queue automatically adds printers to Preflight. Use Printer Manager to add RIP-Queue printers from a remote system, or to re-add printers that have been previously deleted.

### ➔ To add a printer:

1. In the Printer Manager, click **Connect**. This opens the Browse Printers dialog.
2. Browse to the **Input** folder for the printer you want to add, highlight the name of the printer, and click **Add** (see Figure 23).

### ➔ To delete a printer:

1. In the Printer Manager, click **Delete**. This will remove the printer.
2. Click **Close**.

Deleting a printer from Preflight does not remove that printer from RIP-Queue. However, deleting a printer from RIP-Queue removes the printer from Preflight.

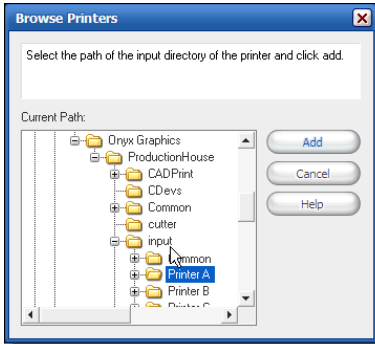
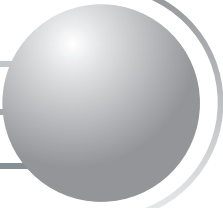


Figure 23—Browse Printers





# Advanced Guide

# Media Manager

## Objectives

This chapter briefly describes the new Media Manager. By the end of this chapter, you will have a basic understanding of the following:

- Overview of the Media Manager
- Purpose of the Media Manager

## What is Media Manager?

In your workflow, many variables affect your output. You print images on a variety of media, use different inks, and even different printers. How can you ensure quality and consistency with so many variables?

Media Manager provides quality and consistency by offering a system of controls for your ink and media configurations, calibration, and profile management. It provides more than just a simple solution to consistent color; it allows you full control over managing your output.

You control your output through two main functions: Calibrating and Profiling.

- **Calibration**—calibration is the process of synchronizing the media, ink, resolution, and dot pattern combination for your printer to ensure consistent output.
- **Profiling**—profiling establishes your target output's density and color to ensure the highest quality prints.


Although the initial setup does take time, maintaining good color is simple and fast.

Media Manager allows you to control the following functions:

- **Manage Media**—create new media and modify existing ones.
- **Manage Modes**—set the ink type and configuration used by your media and printer.
- **Configure Printer Capabilities**—control the use of dot patterns and resolutions as well as enable the use of additional ink colors.

In addition, Media Manager gives you absolute control over your color through profiling. Profiling involves going through a series of five steps





*Ink density is the intensity of ink in one area. It can be affected by resolution, dot pattern, and ink restrictions.*

to create a profile. These steps set your Ink Restrictions, Linearizations, Ink Limits, ICC Profiles, and UCR/GCR settings.

- **Ink Restrictions**—ensure that the proper amount of ink is placed on the media and prevents over-saturation of ink combinations.
- **Linearizations**—determine the exact ink density for your printer.
- **Ink Limits**—prevent over-saturation of four-color combinations.
- **ICC Profiles**—use or create specific color information for each media, ink, resolution, and dot pattern combination.
- **UCR and GCR**—create the optimal balance between three- and four-color black.

Media Manager provides further output control by controlling the following:

- **Create Screens for Press Proofing**—customize screen dot patterns for color proofs and dot simulation.
- **Import and Export ICC Profiles**—use ICC Profiles from other applications or import and export previously created ICC Profiles.
- **Manage Color Measurement Devices**—select from an extensive list of supported color measurement devices.

## The New Media Manager

In the past, profiling took almost an entire day to complete. The New Media Manager is designed with speed and usability in mind (see Figure 1). Instead of an entire day, the new Media Manager allows you to profile in only a couple hours. This saves you time and money.

**The new Media Manager was designed with Help Files incorporated into the program that take you step-by-step as you work through the process. See the Help Files in your Media Manager for more information.**

If you need information on Color Measurement Devices, Calibrating, or any other topic related to Media Manager or profiling, see the Help Files in your program.

If you do not have Media Manager, contact your sales representative for a Key Update.

You can open Media Manager by clicking **Media Manager** on the RIP-Queue toolbar.

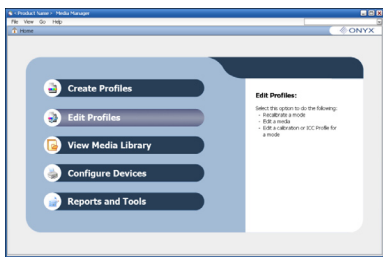


Figure 1—Media Manager

# Workflow & Hardware Key

## Objectives

This chapter will take you through how an image is printed and discuss your Hardware Key. By the end of this chapter, you will have an understanding of the following:

- ONYX Workflow
- Hardware Keys

## What is the ONYX Workflow?

Workflow is the process an image follows from the original file to the printed job. RIP-Queue uses many different ways to reach those results, and although the end result is a printed image, your actual workflow depends on the type of printer, desired output, and the image itself.

The most basic workflow is opening an image in RIP-Queue and printing (see Figure 1). Of course, the actual process of how images become ready for printing is much more intricate.

Before you can print an image, you need to provide specific information to RIP-Queue about how the image should be printed. Following are several questions that should be answered:

- What size should the printed image be?
- What resolution should the final output have?
- What type of media will the printer use?
- Should the image use ICC profiles?

These and similar questions (known as Job Settings) determine how an image is printed. Once your image has job settings, RIP-Queue can process it and send it to the printer (see Figure 2).

Following is an explanation of each step in a basic workflow process. These and other topics are covered in greater detail throughout this manual and the Help Files in your program.

## Original Image File

An original image file is only an image file and has no RIP-Queue settings associated with it (see Figure 3). Before RIP-Queue can use the

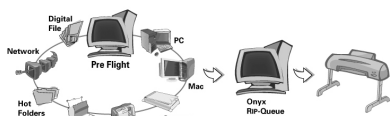


Figure 1—Simple Workflow

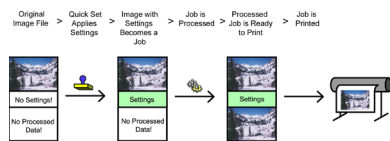


Figure 2—Detailed Workflow



Figure 3—Original Image File

image file, you must define those settings. You can apply those settings using Quick Sets.

## Quick Sets Apply Settings

In a basic workflow, a Quick Set applies the job settings, but you can change these options manually if you want (see Figure 4). Whenever a job enters RIP-Queue, a Quick Set is applied to the image even if it is only the generic Default Quick Set. Because different types of images need to be processed differently, you can create Quick Sets to match your needs.



Figure 4—Quick Sets

## Images with Settings Become Jobs

After the Quick Sets are applied, the image file becomes a job (see Figure 5). A job is an image combined with the RIP-Queue settings necessary to print the image. When you apply settings to a job, the image itself is not modified, but the job is. Once the image becomes a job, it is moved into RIP-Queue where it is ready to be processed.



Figure 5—Image with Job Settings

If you need to modify any of the job settings, this is the most efficient time to do it. While you can modify a job after it has been processed, you will need to reprocess the job for the changes to take effect.

## Processing Jobs

The job settings determine how each job is processed (see Figure 6). Processing a job can take several minutes depending on the job settings and the original source file. For example, an image that is 2” by 3” would take only a few seconds to process, but an image that was 200” by 300” would take much longer.



Figure 6—Processing Jobs

## Ripping

The method by which jobs are processed is called Ripping. The word RIP is an acronym that means *raster image processing* or *raster image processor*. Raster data, a collection of dots that make up an image, is the type of data that is sent to the printer. When a job is processed, the original image data is read and output data (processed data) is created according to the job settings.

## PostScript Files

PostScript files (\*.ps, \*.eps, and \*.pdf) are different than raster files because they are not comprised of pixels or dots. Instead, they are a set of instructions that describe how to create raster data. When PostScript files are processed, they are read instructions first. This is called interpreting.

*Raster files must still be ripped because the processed raster data is different than the original raster data.*

After the file is interpreted, RIP-Queue then creates raster data—rendering.

## Ready to Print

Once RIP-Queue processes the job, it is ready to print (see Figure 7). At this stage in the workflow, you can still modify the job settings, but certain job settings, like media, page size, and resolution, require that you reprocess the job for the changes to take effect. Other job settings, like number of copies, can be modified without reprocessing.

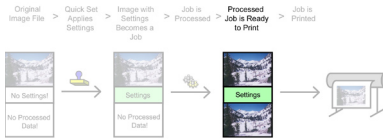


Figure 7—Ready to Print



Figure 8—Printing



Figure 9—Reprinting

## Printing Jobs

By default, images are printed in the order they are received (see Figure 8). Therefore, a job cannot print until the previous job finishes printing. Depending on your settings, a job may wait until other jobs are also ready or until you manually start the printing. You can configure the printer to start printing automatically, when a certain percentage of the media is used efficiently, or when a time-out value has passed.

## Reprinting Jobs

Once RIP-Queue prints the job, it moves the file to the Buffered Jobs area of the queue (see Figure 9). You can reprint jobs in this area at any time, or you can modify the job, reprocess it, and then print.

Because the processed data has been created for files that were printed, you can reprint a job at any time using the same processed data. Once RIP-Queue creates the process data, you can even print jobs that no longer have the original source image. However, you can only reprocess a job if you still have the original source image.

## Hardware Key

The Hardware Key determines the actual functions and features you can use in your program. The Key is a physical plug that came with your software (see Figure 10). Your Key contains information that specifies exactly which features, printers, and capabilities you are able to use.



Figure 10—Hardware Key

## Updating Your Hardware Key

If your Key does not list the features or printers that you want to use, you can get a Key Update File from your sales representative. A Key Update is a small file that adds permissions to your Hardware Key.

For information on checking your Hardware Key permissions, see the Introduction to this manual.

### ➔ **To update your Key:**

1. Run **WinKey** by choosing **What's On My Key** from the Windows Start menu.
2. Click **File > Update**.
3. Browse to the **Key Update File** (extension \*.key).
4. Select the **Key Update File**, and click **Open**.

If the Key Update adds a new feature or capability, you may need to re-install the software for that feature or capability to take effect. If the Key Update only adds permissions for an additional printer, you only need to install the new printer.

# Printing & Job Management

## Objectives

This chapter will take you through printing. By the end of this chapter, you will have an understanding of the following:

- How jobs are printed
- Placement Strategies
- Job Management

## When are Jobs Printed?

RIP-Queue is designed to print your jobs automatically once certain conditions are met. These conditions include making sure you are using the correct media, ensuring that the printer is online and not currently printing, and making sure that all holds are turned off. If any condition is not met, the job will not print.

## Holds

RIP-Queue will not print jobs that are On Hold. A Hold lets you review a job before it is printed. After it is reviewed and modified, you can remove the Hold.

### ➔ To change the Hold status of a job:

1. Highlight one or more jobs in the *Jobs Ready to Print* area.
2. Click the **Hold** button (the hand icon). This will remove the Hold and, if all other conditions are met, print your image.

## Media

Every job has a media associated with it. The media controls the output profiles and printer settings and is the most important job setting besides the printer itself.

Every printer also has a media associated with it. The media associated with the printer represents the media that is physically loaded in the printer. Because your software will print automatically, make sure that the media designated in RIP-Queue matches the media that is actually in the printer. Failure to do so can cause your jobs to print on incorrect media.

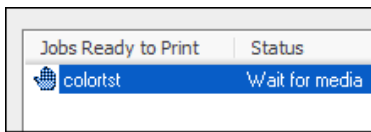


Figure 1—Wait for Media

If the media for the job and the media for the printer do not match, RIP-Queue will not print the job. The job will have a Wait for Media status (see Figure 1). Once you change the media so they match, your job will print.

### ➔ To change the media for a printer:

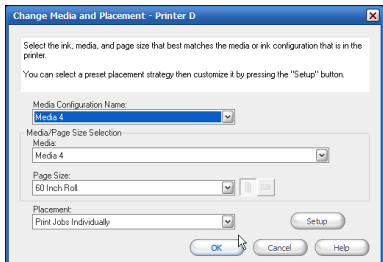



Figure 2—Change Media and Placement

1. Highlight the printer in the Printers List area of the program window.
2. Click **Change** in the Printer Information area on the right-side of your screen. This opens the Change Media and Placement dialog (see Figure 2).
3. Use the drop-down menus to select the **Media** that is currently loaded into your printer.
4. Click **OK**.

### ➔ To change the media for a job:

1. Highlight the job in the job list to display the job settings in the Job Information area of the RIP-Queue window.
2. Click **Change** on the right-side of your screen. This opens the Job Properties dialog (see Figure 3).
3. Change the **Media Configuration Name** and **Media** to match the media that is currently loaded into the printer.
4. Click **OK**.

 Changing the media for either your printer or job sets a Wait for Media hold. Release the hold to print.

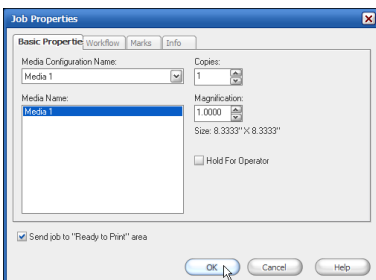


Figure 3—Job Properties

## Page Size

Each image is processed for a specific page size, and a job will not print if the page size is equal to or smaller than the page size currently loaded in the printer.

The Maximum Printable Area of a job does not need to be the same as the page size of the media in the printer, but the width and height of the job does need to fit on the page. Tiling lets you print a larger image than your page size by splitting your image into smaller pieces. For more information on Tiling, read the *Tiling* section in the Preflight chapter, or see the Help Files in your program.

## Printer Online

The printer must be online before RIP-Queue can print a job. A green icon in the Printer Information area indicates a printer is online; a red icon indicates that it is offline. A yellow icon indicates that a printer is currently printing. Once it finishes, it will go into an online state. Use the online/offline button next to the green or red icons to change the state of the printer.

## Triggering

Triggering is the method by which you allow jobs to print. There are two types of Start Print triggers: Manual and Automatic.

- **Manual Triggering**—this option delays printing until you click the Print Now button in the Printer Information area.
- **Automatic Triggering**—this option automatically prints jobs based on the percentage of the media that will be used or a time-out setting. You can also use the Print Now button to override any delays.

### ➔ To modify the triggering method:

1. Highlight the printer with the triggering method you want to change.
2. Click **Change** in the Printer Information area on the right-side of your screen. This opens the Change Media and Placement dialog (see Figure 2).
3. Click **Setup**. This opens the Placement Strategy dialog (see Figure 4).
4. Check or uncheck the **Automatically Start Printing** option.
5. Click **OK**.

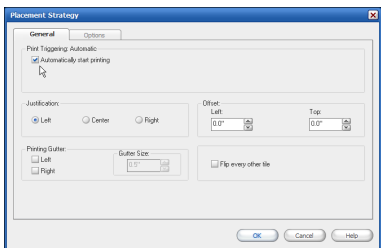


Figure 4—Placement Strategy

## How Are Jobs Printed?

There are two sets of criteria that control how jobs are printed: Job Options and Printer Settings.

### Job Options

Job Options control settings that are specific to each job. This includes resolution, media, page size, tiling, marks, and other settings.

Job Options do not affect where the job prints on the media, neither do they determine whether the job is nested or grouped with other jobs.

### Printer Settings

Printer Settings control settings that apply to the jobs collectively. For example, they control where jobs print on your media and whether they are nested, grouped, or printed with cutter marks. The main printer settings are media currently in the printer, page size currently in the printer, and placement.

### ➔ To access the printer settings:

1. Highlight your printer.
2. Click **Change** to open the Change Media and Placement dialog.

For more information on Job Options, read the Job Options section of the Managing Jobs chapter, or see the Help Files in your program.



The Media Configuration Name, Media, and Page Size should always match the ink and media currently in your printer. The Placement option controls the placement and grouping (nesting) of your jobs. There are five placement options to choose from.

- BestFit
- Conserve Media
- Group Jobs Together
- Print Jobs Individually
- Fotoba & Dicus Cutter Marks

Included with the Placement option are other settings that are specific to the type of Placement option you select. These settings control the positioning and grouping of jobs.

### ➔ **To modify the Placement specific options:**

1. *Highlight the printer.*
2. *Click **Change** to open the Change Media and Placement dialog.*
3. *Choose a **Placement setting**.*
4. *Click **Setup**. This opens the Placement Strategy dialog (see Figure 4).*
5. *Modify the options you want to change, and click **OK**.*

RIP-Queue retains the configuration for each Placement setting, allowing you to switch Placement settings without reconfiguring the Placement specific options each time. The Placement settings and the Placement specific options are also printer specific. In other words, changing the Placement or Placement specific options for one printer will not change those settings for your other printers.

## **Placement Strategies**

Each Placement Strategy uses different algorithms and options that provide various workflow solutions for different situations. The primary difference between each option is speed and unused media. Generally speaking, if you need to print faster, you will include fewer jobs and have more unused media. However, if you can delay printing until multiple jobs are processed and ready to print, RIP-Queue can organize them to effectively use more media.

### ***BestFit***

The BestFit placement strategy conserves the most media, but may be your slowest option. BestFit automatically places jobs to use the most

media possible. RIP-Queue re-arranges and rotates the jobs when necessary. Every time a new job enters RIP-Queue, this strategy rearranges the entire nest to better fit the new job with the existing jobs. Use BestFit if you want to save the most media and do not need to print jobs on a strict priority (first in, first out) basis.

### ***Conserve Media***

The Conserve Media placement strategy is very similar to BestFit with some exceptions. Conserve Media does not rotate images for better placement. Conserve Media also prints on a row-based system where the largest image in a horizontal row determines the maximum height any image in that row can be. On the other hand, BestFit does not use rows. RIP-Queue rearranges the jobs when necessary. Every time a new job enters RIP-Queue, the Conserve Media strategy re-arranges the entire nest to better fit the new job with the existing jobs. Use Conserve Media if you want to save media and do not need to print jobs on a strict priority basis.

### ***Group Jobs Together***

The Group Jobs Together placement strategy places jobs side-by-side to use more media, but does not rearrange the order of the jobs as does the Conserve Media placement. Use Group Jobs Together if you want to save media and need to print jobs on a strict priority basis.

### ***Print Jobs Individually***

The Print Jobs Individually placement strategy prints only one job at a time. Use Print Jobs Individually if you do not want to save media and need to print jobs on a strict priority basis.

### ***Fotoba & Dicus Cutter Marks***

Use this strategy to print your images with Fotoba & Dicus Cutter Marks. This strategy will conserve as much media as possible, but also creates spacing between the images for the Marks. Use this option if you need to print your images with Fotoba & Dicus Cutter Marks.

### **Modifying Placement Options**

Each placement strategy offers a variety of Placement Options.

#### **To modify the Placement specific options:**

1. *Highlight the printer.*
2. Click **Change** to open the *Change Media and Placement dialog*.



*Not all strategies will have the same options.*



*Both Time and Area Based Starts can be overridden by clicking the Print Now button.*

3. Choose a **Placement setting**.

4. Click **Setup**. This opens the *Placement Strategy* dialog (see Figure 4).

5. Modify the options you want to change, and click **OK**.

Following is a description of the available options for each strategy.

## Print Triggering

Print Triggering controls when RIP-Queue sends the jobs to the printer. You can select Time Based Start, Area Based Start, or Automatically Start Printing. If you do not select any of these options, printing will only occur when you click **Print Now**.

- **Time Based Start**—this option forces RIP-Queue to wait a specified time before printing.
- **Area Based Start**—this option forces RIP-Queue to wait until a specified amount of media will be used before printing.
- **Automatically Start Printing**—this option sets RIP-Queue to automatically print a job as soon as it is processed.

## Justification

The justification setting determines where the printer places the prints on the media. If you are using a strategy that prints multiple images at a time, the justification applies to the group of images.

## Offset

The offset settings add extra white space to the left or top of the printed jobs. If you are using a strategy that prints multiple images at a time, the offset applies to the group of images.

## Printing Gutter


Printing Gutter determines the size and placement of the gutter. Gutters help make your color consistent by allowing heads to lay down each color of ink on the media before passing over the print.

## Flip every other tile

This option flips every other tile in an image 180 degrees

## Print Multiple Rows at a Time

This option causes RIP-Queue to send all rows to the printer where it prints as one group.



For more information on Contour Cutting, read the Contour Cutting chapter, or see the Help Files in your program.

## Contour Cutting

This option, located on the Options tab, allows you to generate marks necessary for use with a contour cutting device. Select **By Printer** if your printer also functions as a contour cutter.

## Horizontal Copying

Select **Horizontal Copying** to place tiles or copies of a job side-by-side across the page width. When Horizontal Copying is disabled, RIP-Queue places each tile or copy of a job on its own row.

## Grouping

Grouping determines how RIP-Queue orders the tiles or copies of a job when printing. You can select to print By Tiles or By Copies. For example, printing two copies of a two-page document with *By Tiles* selected results in [Copy 1 Page 1, Copy 1 Page 2, Copy 2 Page 1, Copy 2 Page 2]. Printing with *By Copies* selected prints the same job as [Copy 1 Page 1, Copy 2 Page 1, Copy 1 Page 2, Copy 2 Page 2].

## Space Between Copies

Set a value for each side of the image to determine how much white space RIP-Queue leaves between images.

## Percent to cache before printing

This option allows you to set when the processed information is sent to the printer. When it is set to zero percent, information is sent to the printer as fast as it is processed. When it is set to 100 percent, information is not sent to the printer until the entire print is finished processing.

## Cutter Mark Darkness

Select a value to set the darkness of the cutter mark, where 1 is the lightest and 4 is the darkest.

## Aborting a Print

### → To abort a print:

1. Highlight the printer on which the job is printing.
2. Click the **Abort** button in the Printer Information area of the RIP-Queue window.

After you abort a print job, the printer automatically goes into an offline state. To turn the printer back online, click the **Online/Offline** button. When you abort a print, the jobs that were currently printing are sent to the Buffered Jobs area.

*It can take several minutes for a printer to cease printing when you abort a job.*

## Reprinting a Job

After RIP-Queue prints a job, it sends the job to the Buffered Jobs area. If the job is an Archive job, then it remains in the Buffered Jobs area until you delete it. If the job is a Recyclable job, then RIP-Queue automatically deletes it if you do not have enough hard drive space to process new jobs. You can reprint both Archive and Recyclable jobs. The Quick Set controls whether a job becomes an Archive or Recyclable job.

### ➔ To reprint a job:

1. Click and drag the **job** from the Buffered Jobs area to the Jobs Ready to Print area.
2. A dialog appears asking if you want to re-process the job. Click **No** unless you have modified the job in anyway that requires re-processing. The job appears in the Jobs Ready to Print area and prints according to the Triggering method you've selected.

## Managing Jobs

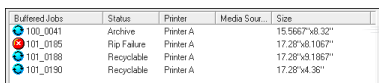
Managing Jobs is the process by which jobs are modified in RIP-Queue. Many options cannot be set from RIP-Queue without using Quick Sets or Preflight. If your software does not include Preflight, contact your sales representative for a Key Update.

You can modify the following options directly from RIP-Queue:

- Size (magnification)
- Media
- Number of Copies
- Workflow Options
- Marks Options

### Changing Size (Magnification)

When you open a job, RIP-Queue displays the size of that job in the Buffered Jobs area (bottom left) of your window (see Figure 5). This size is determined by the source file of your image unless you use a Quick Set to modify the size automatically. You can also use RIP-Queue to modify the size of your image after opening it in RIP-Queue.



Buffered Jobs	Status	Printer	Media Sour...	Size
100_0041	Archive	Printer A		15.5667"x8.32"
101_0185	Rip Failure	Printer A		17.28"x8.1067"
101_0188	Recyclable	Printer A		17.28"x8.1067"
101_0190	Recyclable	Printer A		17.28"x4.36"

Figure 5—Buffered Jobs Area

### ➔ To change the size of a job from RIP-Queue:

1. Highlight the job in RIP-Queue.
2. Click **Change** in the Job Information area. This opens the Job Properties dialog (see Figure 6).
3. From the Basic Properties tab, enter a value in the **magnification**

box, or use the up and down arrows to change the value. The new job size will show under the magnification value box.

4. Click **OK**.

When you change the magnification of a job, the Magnification value is reset to 1. For example, if you change the magnification of a 10" by 10" job to a value of 2, RIP-Queue reprocesses the job at the new size (20" by 20") and sets the new size as a Magnification value of 1. To change the job back to its original size, you would enter a Magnification value of .5.

If you want to specify the exact dimensions of the image, you must either set a Quick Set to determine the height or width of the image before opening it in RIP-Queue, or you can edit the image in Preflight.

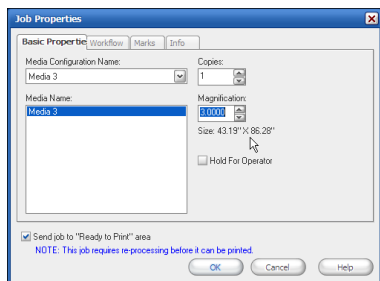


Figure 6—Job Properties Dialog

## Changing the Media

The media is shown in the Job Information area of your screen (see Figure 5). The media setting is comprised of two parts: the Media Name and the Media Configuration. The media name is the name of the media itself. The Media Configuration (the portion shown in brackets) specifies the media or ink setup in the printer.

The media of your job must match the media of your printer or it cannot print.

### ➔ To change the media of a job:

1. Highlight the job you want to modify.
2. Click **Change** in the Job Information area. This opens the Job Properties dialog (see Figure 6).
3. From the Basic Properties tab, select the **Media Configuration Name** you want to use from the drop-down menu.
4. Highlight the **Media Name** you want to use. If the media name you want to use does not appear in the list, it may not be available with your media configuration, or it was not installed when you installed your printer.
5. Click **OK**.

After you have changed the media for the job, RIP-Queue automatically reprocesses the job. Reprocessing ensures that the correct calibrations and profiles are associated with the media.

## Changing the Hold Status

The Hold Status determines whether or not the job prints. If a job is on hold, it will not print until you remove the hold.

For more information on installing media, read the Installing Your Printer section of the *Setup & Printing* chapter, or see the *Help Files* in your program.

## ➔ To change the Hold status of a job:


1. Highlight your job in the Jobs Ready to Print area.
2. Click the **Hold** button (the hand icon). This will remove the Hold and, if all other conditions are met, print your image.

## Changing the Number of Copies

RIP-Queue displays the number of copies in the Basic Properties tab of the Job Information dialog (see Figure 6) and in the Copies column of the Jobs Ready to Print area of your screen.

## ➔ To change the number of copies of a job:

1. Highlight the job you want to modify.
2. Click **Change** in the Job Information area. This opens the Job Properties dialog (see Figure 6).
3. From the Basic Properties tab, enter the **number of copies** you would like printed in the Copies value box or use the up and down arrows.
4. Click **OK**.



The maximum number of copies you can enter for a job is 9999. Changing the number of copies does not require reprocessing.

## Modifying the Workflow Options

Workflow Options allow you to control how RIP-Queue handles your jobs. These options are found in the Job Properties dialog under the Workflow tab (see Figure 7). For more information on Workflow Options, read the *Setting Workflow Options* section of the Preflight chapter, or see the Help Files in your program.

## Modifying the Marks Options

Marks are special lines that are printed with an image to aid in trimming or measuring the final output. The Marks tab in the Job Properties dialog allows you to set these marks (see Figure 8). For more information on Marks Options, read the *Marks Options* section of the Preflight chapter, or see the Help Files in your program.

## Controlling Jobs

Controlling Jobs helps you more effectively manage your workflow. You can control jobs in RIP-Queue in the following ways:

- Viewing a Job
- Changing a Job's Order
- Sending a Job to Preflight
- Reprinting a Job
- Selecting Tiles to Print

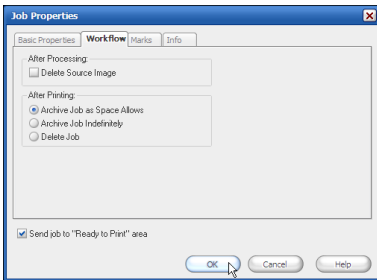


Figure 7—Workflow Options

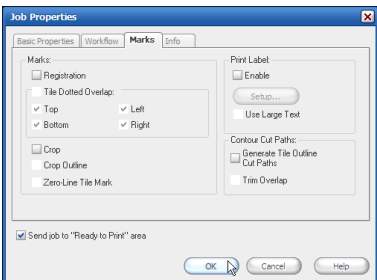


Figure 8—Marks Options

- Changing the Printer Settings for a Job
- Copying a Job to a Different Printer
- Deleting a Job

## Viewing a Job

Use the Show Jobs For drop-down box to control how jobs are viewed in the Jobs Ready to Print area of your screen (see Figure 9). You can choose to view all jobs or just the jobs related to a specific printer.

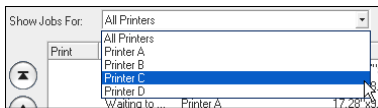


Figure 9—Show Jobs For Option

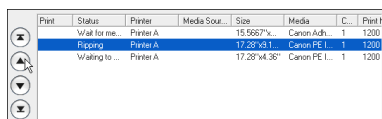


Figure 10—Job Order

## Changing a Job's Order

The arrow buttons on the left-side of the Jobs Ready to Print area of your screen control the order in which jobs print (see Figure 10). You can change the order of a job by highlighting it and then using the up and down arrows to change its position in the Queue. Jobs are organized by printer and then by order; you can only change the job order for each printer. If you are using BestFit or Conserve Media, RIP-Queue ignores the job order.

## Sending a Job to Preflight

To send a job to Preflight, highlight the job and click **Preflight** on the main toolbar, or click **Preflight** in the Job Information area of your screen. When a job is in Preflight, its status will display as Busy. It cannot be modified, processed, or printed until it is submitted from Preflight.

## Reprinting a Job

### ➔ To reprint a job:

1. Highlight the **job** in the Buffered Jobs Area of your screen.
2. Drag the job into the Jobs Ready to Print area, or right-click the job, and choose **Process/Print**.
3. When asked if you want to reprocess the job, click **No** unless you have modified the printer or job options.

## Selecting Tiles to Print

### ➔ To select which tiles you want to print:

1. Right-click the job to open the right-click menu.
2. Choose **Edit > Tiles**. This opens the Tile for... dialog.
3. Highlight the tiles you want to print (see Figure 11).
4. Click **OK**.

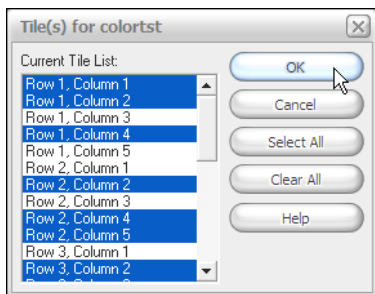


Figure 11—Tiles



## Changing the Printer Settings for a Job

### ➔To change the printer settings for a job:

1. Right-click the job to open the right-click menu.
2. Choose **Edit > Printer Settings**. This opens the Printer Settings dialog (see Figure 12).
3. Modify the **Printer Settings** you want to change.
4. Click **OK**.

Changing the printer settings can affect the color quality of the job.

## Copying a Job to a Different Printer

### ➔To copy a job to a different printer:

1. Right-click the job to open the right-click menu.
2. Select **Copy to....** This opens the Copy to... dialog (see Figure 13).
3. Select the printer you want to copy the job to.
4. Click **OK**.

## Deleting a Job

### ➔To delete a job:

1. Highlight the job you want to delete.
2. Press the **Delete** key on your keyboard, or click the **Delete** button on the left-side of the job list. This will display a warning dialog (see Figure 14).
3. Click **Yes** to delete the job.

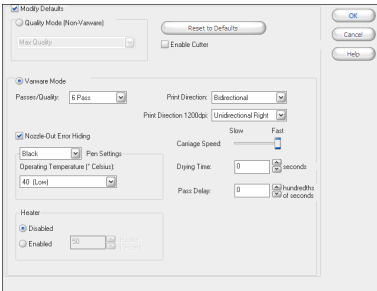


Figure 12—Printer Settings

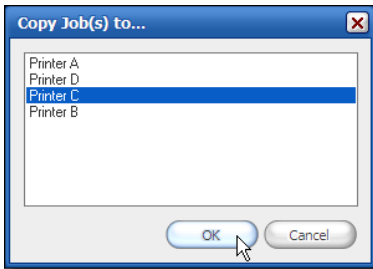


Figure 13—Copy Job Option

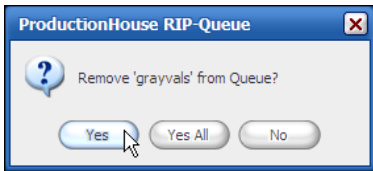


Figure 14—Delete Job

# Virtual Printers & Other Systems

## Objectives

This chapter discusses virtual printers, printing from other operating systems, and web printing. By the end of this chapter, you will know how to do the following:

- Use Virtual Printers
- Setup non-Windows Operating Systems for printing
- Print using the Web Portal

## Using the Virtual Printer

A virtual printer is a RIP-Queue printer that is used as a Windows printer (see Figure 1). When you install a RIP-Queue printer, RIP-Queue automatically creates a Windows printer in the Windows Operating System for that device. When you print a job to that Windows printer, it sends the job to RIP-Queue for processing and printing.

You can use any application to print to a virtual printer: graphic design programs, word processors, internet browsers, and so forth. Just choose **File > Print** in the application, and the application sends the image to RIP-Queue.

When RIP-Queue creates a virtual printer, it automatically shares the printer on the network. This means that any computer on the network, Windows or Macintosh, can print from any application to the virtual printer.

## Printing from Other Windows Systems

### ➔ To add the virtual printer to your Windows system:

1. From the Windows Start menu, access **Settings > Printers > Add Printer**.
2. Choose to add a Network printer and browse to the RIP-Queue system.
3. Install the printer.

Once you add the virtual printer to your printer list, you can print from any application directly to RIP-Queue by selecting **Print** from the File

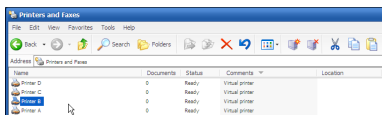


Figure 1—Virtual Printers



To use a virtual printer, you must have Hot Folders enabled on your Hardware Key.

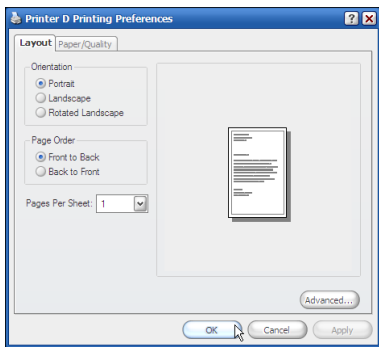


Figure 2—Printer Dialog

**!** If you modify any settings that contradict a setting in the Quick Set, the Advanced Option setting takes precedence.

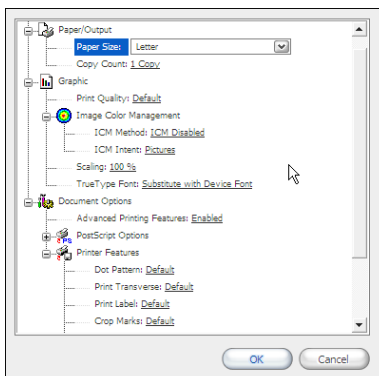


Figure 3—Advanced Printer Options

menu. Be sure to choose the proper orientation, color options, and page size from the Printer dialog (see Figure 2).

To configure additional options for your virtual printer, such as the printer specific settings, click **Advanced**. This opens the Advanced Options dialog (see Figure 3). From the Advanced Options dialog, you can modify the following options:

- Page (Paper) Size
- Number of Copies
- Resolution
- Scaling
- TrueType Font Handling
- Printer Features

Some features in the Advanced Option dialog may not have any effect when printing to a virtual printer. For example, RIP-Queue controls halftone creation for the image, so the Halftone Color Adjustment option in the Advanced Option dialog does not affect the color of the printed image.

All of the printer options (such as page size, dot pattern, and Hot Folder settings) are based upon a PPD (Printer Profile Description). A PPD is a small text file that describes the features and capabilities of the printer.

Some settings controlled by the PPD, such as the Media and Hot Folder, can change when you modify your printer in RIP-Queue. Whenever you modify your printer by installing a new media, changing a Quick Set, or performing other similar tasks, RIP-Queue updates the PPD file automatically. However, most programs obtain the printer information from the PPD file on startup. This means that if you change your printer information, you should restart the programs from which you are printing to take advantage of those changes.

## Printing from a Mac OSX (10.2.8 or earlier)

### ➔ To print from your Macintosh with OSX:

1. Verify that you have Windows/Macintosh connectivity capabilities (such as Windows 2000 Server or PCMacLAN).
2. If your Mac cannot access the RIP-Queue Mac PPD folder (ONYX Graphics\Production House\server\PPD\Mac), then copy the PPDs from the RIP-Queue Mac PPD folder to the Mac's hard drive.
3. On the Mac, open **Print Center** to open the Printer List dialog (see Figure 4). You can find this application on the hard drive in the same location as OSX, under **Applications > Utilities**.

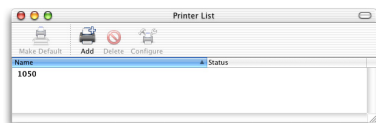


Figure 4—Printer List

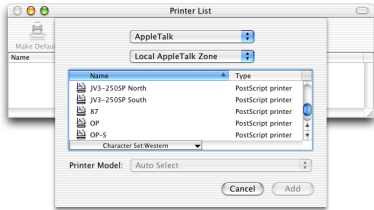


Figure 5—Select a Printer

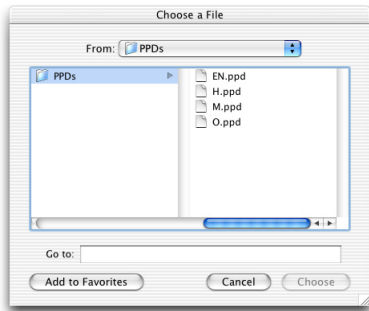


Figure 6—Select a PPD

4. In the **Printer List** dialog, click **Add** to display a secondary **Printer List** dialog.
5. Use the drop-down menu to select the protocol that your Mac connectivity package uses to share the printer (usually **AppleTalk**).
6. Select the appropriate printer from the list (see Figure 5).
7. Use the **Printer Model** drop-down menu to select **ONYX Graphics**, and then choose the **Model Name** that corresponds to the printer name you want to install. If neither **ONYX Graphics** nor the appropriate **Model Name** appears, select **Other** for the **Printer Model**. Next, browse to the **PPDS** from the **RIP-Queue Mac PPD** folder (or from the Mac's hard drive if you copied them there), and select the appropriate **PPD** for your printer from the **Choose a File** dialog (see Figure 6).
8. Verify that you selected the correct printer name and **PPD**, and click **Add**.

## Printing from Mac OSX (10.3.x or higher) with Windows Printing

There are three major steps when printing from OSX to an ONYX Virtual printer with Windows Printing:

- Configure the network
- Establish a Virtual Printer share name
- Add the printer on Mac OSX

### Configuring the Network

It is vital that the OSX machine and the PC in which your ONYX Graphics software resides communicate. Configuring the Network ensures that communication across the network can occur.

#### → To configure the network:

1. Look up the **IP Addresses** of both the **OSX** and **PC** machines (see the **Finding IP Addresses** section for more information).
2. Open a command prompt by clicking **Start > Programs > Accessories > Command Prompt**.
3. Ping from the **PC** to see if there is communication between the **OSX** machine and the **PC**. To do this, in the **Command Prompt** window, type: **ping <IP address of OSX machine>**, then press **Enter**. You can also open a command prompt by clicking **Start > Run....** In the **Run** dialog, type: **cmd**, and then click **OK**.

### Finding an IP Address

An IP (Internet Protocol) Address consists of four decimal numbers in

The **Ping** utility is a system administrator's tool used to see if a computer is operating and if the network connections are intact. A small information packet is sent through the network to an IP Address. The computer that sent the packet waits for a response. If the connections are good, a return packet is sent. If there is no communication between the **PC** and **Mac OSX**, consult your network administrator for assistance.

the range of 0 – 255 separated by dots, such as 62.223.175.65. When you connect to a network, your PC/Mac may automatically issue a unique IP Address.

### ➔ To locate a PC IP Address:

1. *Open a command prompt window (Start > Programs > Accessories > Command Prompt).*
2. *Type: **ipconfig**.*
3. *Press **Enter**, then look for the output section that specifically says IP Address.*

### ➔ To locate a Mac OSX IP Address:


1. *Pull down the **Apple** menu, and select **System Preferences**.*
2. *Choose **Network**.*
3. *In the Show drop-down list, select the network interface you are using.*
4. *Click the **TCP/IP** tab.*
5. *Locate the **IP Address** line.*

## Establishing a Virtual Printer Share Name

Creating a Share Name allows you to easily recognize the virtual printer when working from your Mac.

### ➔ To establish the share name:

1. *From the Start menu, select **Settings > Printers and Faxes**.*
2. *Right-click on the **ONYX Virtual Printer**, and select **Sharing**.*
3. *In the Virtual Printer Properties dialog, locate the **Share Name** field and change it so that it is no more than 12 characters long. Then, write down the name located in the Share Name field.*
4. *Click **OK** to accept your changes and exit the dialog.*



*The Share Name cannot be longer than 12 characters including spaces.*

## Adding the Printer on the Mac OSX

The final step in the OSX/Windows Printing process is to add the printer to the Mac OSX.

### ➔ To add a printer to the Mac OSX:

1. *On your PC, copy the **PPD** located in **ONYX Graphics\Production House\Server\PPD\Mac**.*
2. *Paste the **PPD** somewhere on your Mac. To do this, go to your Mac hard drive and choose **Library > Printers > PPDs > Contents > Resources >** and select an appropriate language for the folder, such as choosing **En.LPROJ** for English).*
3. *On your Mac, open the **Printer Utility**. To do this, use the **Finder***

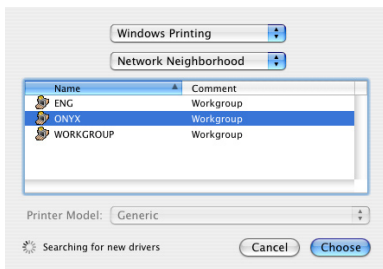


Figure 7—Windows Printing

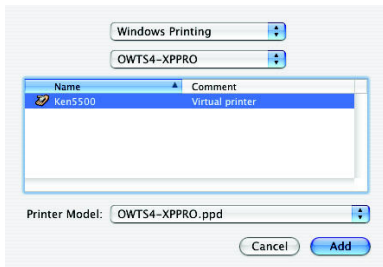


Figure 8—Add

to select **Go > Utilities > Printer Setup Utility**.

4. Add a new printer.
5. Select **Windows Printing** from the first drop-down.
6. Select **Network Neighborhood** from the second drop-down list.
7. Select the **Domain** or **Workgroup** of which the ONYX RIP machine is a member (see Figure 7).
8. Select the name of the PC where the ONYX RIP resides.
9. Once the list of available virtual printers appears, select the printer you want to use, and click **Choose**.
10. From the Printer Model drop-down list, choose **Other**. Then navigate to the folder where you placed the correct PPD (this is the PPD you copied and pasted in steps 1 and 2).
11. Click **Add** (see Figure 8).

Now that you have established communication between your PC and Mac OSX, installed Windows Printing, created a share name for the virtual printer, and added the printer onto your Mac OSX, you can print to your ONYX Workflow software through your OSX machine.

## Printing from Mac OSX (10.3.x or higher) with Printservices for UNIX

There are four major steps when printing from OSX to an ONYX Virtual printer with Printservices for UNIX:

- Configure the network
- Install Printservices for UNIX
- Establish a Virtual Printer share name
- Add the printer on Mac OSX

### Configuring the Network

It is vital that the OSX machine and the PC in which your ONYX Graphics software resides communicate. Configuring the Network ensures that communication across the network can occur.

#### ➔To configure the network:

1. Look up the **IP Addresses** of both the OSX and PC machines (see the Finding IP Addresses section for more information).
2. Open a command prompt by clicking **Start > Programs > Accessories > Command Prompt**.
3. Ping from the PC to see if there is communication between the OSX machine and the PC. To do this, in the Command Prompt window, type: **ping <IP address of OSX machine>**, then press **Enter**. You can also open a command prompt by clicking **Start > Run....** In the Run dialog, type: **cmd**, and then click **OK**.

## Installing Printservices for UNIX

### ➔ To install Printservices for UNIX:

1. From the Start menu, select **Settings > Control Panel > Add or Remove Programs**. This opens the Add or Remove Programs dialog.
2. Click **Add/Remove Windows Components** (found on the far left of the dialog). This opens the Windows Components dialog.
3. Scroll to **Other Network File and Print Services**. Activate this setting by clicking the checkbox, and then click **Details**. This opens the Other Network File and Print Services dialog.
4. Activate **Print Services for UNIX**, and click **OK**.
5. In the Windows Components dialog, click **Next** to configure the change.
6. From the Start menu, select **Settings > Control Panel > Administrative Tools > Services**. This opens the Services dialog (see Figure 9).
7. Scroll to find **TCP/IP Print Server**, and then double-click it. This opens the TCP/IP Print Server Properties dialog (see Figure 10).
8. From the Startup Type drop-down list, choose **Automatic**.
9. Click **Start** to begin Printservices for UNIX. Note that the Status and Startup Type for TCP/IP Print Server have changed to Started and Automatic.
10. During the RIP station set-up, remember to turn off the network firewall or make an exception on port 515 to use this workflow.

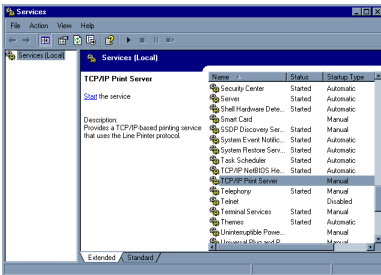


Figure 9—Services Dialog

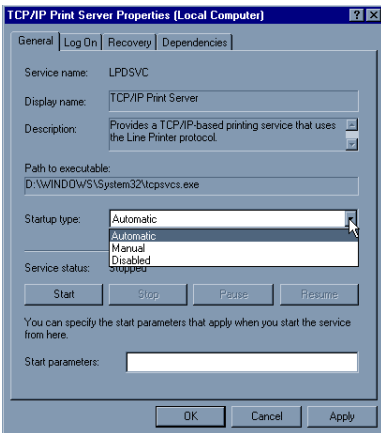


Figure 10—TCP/IP Print Server Properties

### Establishing the Virtual Printer Share Name


Creating a Share Name allows you to easily recognize the virtual printer when working from your Mac.

### ➔ To establish the share name:

1. From the Start menu, select **Settings > Printers and Faxes**.
2. Right-click on the **ONYX Virtual Printer**, and select **Sharing**.
3. In the Virtual Printer Properties dialog, locate the **Share Name** field and change it so that it is no more than 12 characters long. Then, write down the name located in the Share Name field.
4. Click **OK** to accept your changes and exit the dialog.

### Adding the Printer on the Mac OSX

The final step in the OSX/Printservices for UNIX process involves adding the printer to the Mac OSX.

 The Share Name cannot be longer than 12 characters including spaces.

## ➔ To add a printer to the Mac OSX:

1. On your PC, copy the **PPD** located in **ONYX Graphics\Production House\Server\PPD\Mac**.
2. Paste the **PPD** somewhere on your Mac. To do this, go to your Mac hard drive and choose **Library > Printers > PPDs > Contents > Resources >** and select an appropriate language for the folder, such as choosing **En.LPROJ** for English).
3. On your Mac, open the **Printer Utility**. To do this, use the Finder to select **Go > Utilities > Printer Setup Utility**.
4. Add a new printer.
5. From the **Printer Model** drop-down list choose **Other**, then go to the folder where you placed the PPD (this is the PPD you copied and pasted in steps 1 and 2).
6. Select **LPR** as the **Printer Port**.
7. For the **Queue**, choose the **Share Name** of your virtual printer. You can change the **Share** name if you like.
8. In the **IP Address** field enter the IP address of the RIP station, not the IP address of the printer.

Now that you have established communication between your PC and Mac OSX, installed Printservices for UNIX, established a share name for the virtual printer, and added the printer onto your Mac OSX, you can print to your ONYX Workflow software through your OSX machine.

To use the Web Portal, you must have that feature included with your software. Contact your sales representative for a Key Update.

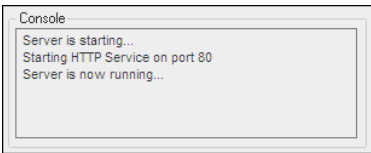


Figure 11—RIP-Queue Console

## Using the Web Portal (HTTP Access)

The Web Portal allows you to send jobs to RIP-Queue from a remote computer on your local network through your web browser. This includes sending images to print from Macs. In the Web Portal you can view the Active Jobs (equivalent to the Jobs Ready to Print area of the RIP-Queue window), the Inactive Jobs (equivalent to the Buffered area of the RIP-Queue window), and even control some job options like number of copies, magnification, holds, and marks.

### ➔ To launch the Web Portal:

1. Open **RIP-Queue**. In the bottom right corner of the window, the message “Starting HTTP service on port 80” displays in the **RIP-Queue console** (see Figure 11).
2. Open your internet browser.
3. In the address bar of your browser, type **http://** followed by the name of the machine on which **RIP-Queue** is running. For example, **http://Katherine2**. If you have changed the port number in **RIP-Queue**, you must follow the name of the machine with a colon, then the port number (for example, **http://Katherine:8080** or **http://Katherine:1300**).
4. Press **Enter**. This will open the Web Portal (see Figure 12).

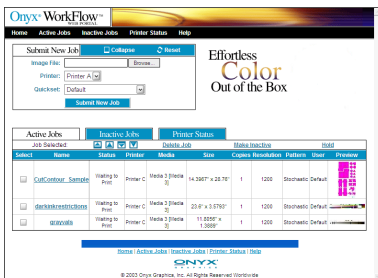


Figure 12—Web Portal



## Changing the Web Portal Port

The Web Portal uses port 80 by default; however, if a service is already using that port, RIP-Queue displays an error in the RIP-Queue console. To resolve this issue, change the port number in the General Settings of RIP-Queue.

### ➔To change the RIP-Queue Web Portal Port:

1. In RIP-Queue select **General Settings** from the File menu to open the General Settings dialog.
2. In the General Settings dialog, enter a new port number into the Port field (e.g. 8080 or 1300).
3. Click **OK**.

## Submitting a Job Using the Web Portal

### ➔To submit a job using the Web Portal:

1. In the Web Portal, click **Browse** in the Submit New Job area. This opens the Choose File dialog (see Figure 13).
2. Browse to the file you want to submit, and click **Open**.
3. In the Web Portal, select the printer you want to use and the Quick Set you want to apply to the image.
4. Click **Submit New Job**.
5. Once RIP-Queue finishes processing the image, click **Home** on the Web Portal page to refresh the page and display the updated Active jobs. Depending on the image size, it can take several minutes for the job to display in the Active Jobs list.

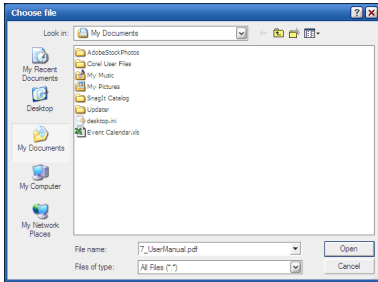


Figure 13—Choose File

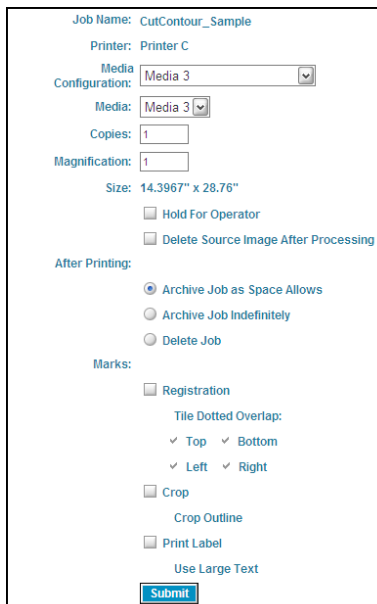


Figure 14—Edit Job

If the newly submitted job does not appear in the Active Jobs list, check the RIP-Queue Console (located in the bottom right corner of the RIP-Queue window) for information about the image.

Once you submit a job to RIP-Queue using the Web Portal, click the job name to display the Edit Job dialog (see Figure 14). In this dialog you can choose to modify job options such as holds, number of copies, and magnification.

Placing a checkmark in the box next to the job name allows you to control the job by deleting, moving, holding, or making the job inactive (moving the job directly to the buffered area without printing).

Clicking **Refresh** on your internet toolbar repeats the last action you performed in the Web Portal. To refresh the Active Jobs list, click **Home** on the Web Portal page (not on your browser toolbar).

# Managing Printers

## Objectives

This chapter shows you how to configure and manage your printers. By the end of the chapter, you will know how to do the following:

- Configure your printers
- Manage RIP-Queue printers

## Configuring Printers

Configuring printers allows you to set preferences for each of your printers. You can determine printer ports, folder settings, and other options.

The Configure Printer dialog allows you to control many of your printer's variables such as Quick Sets, Media, etc (see Figure 1). It also allows you to configure how RIP-Queue sends data to your printer.

You can access the Configure Printer dialog in one of three ways:

- Highlight the printer in RIP-Queue, and click **Configure Printer** on the toolbar
- Highlight the printer in RIP-Queue, and choose **Configure Printer** from the Setup menu
- From Printer Manager, select your printer, and click **Configure**

Each method brings up the same Configure Printer dialog, with the same options and features.

## Configuring the Printer Port

The printer port is the method by which RIP-Queue communicates with the printer.

### ➔ To change the printer port for your printer:

1. Select the **Device** tab on the Configure Printer dialog.
2. Highlight the printer you want to configure from the Printer list.
3. Click **Configure Port** to display the Configure Printer Port dialog (see Figure 2).
4. From the Configure Printer Port dialog, choose the **printer port** you want to print with, and then click **Configure** to modify the port options.

### Note to Windows Vista Users:

*If you have any trouble managing your printers, see the information on page 99.*

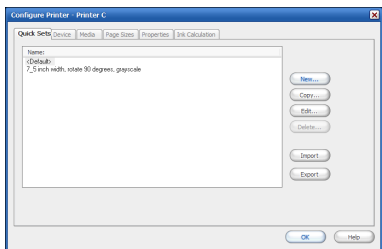


Figure 1—Configure Printers

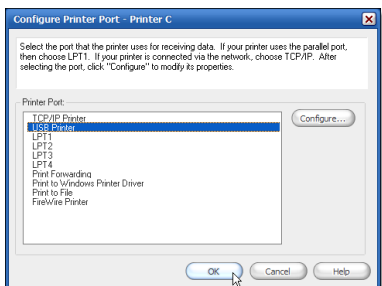


Figure 2—Configure Printer Port

To learn more about the printer ports, see the Help Files in your program.

Depending on your printer, you can use any of the following types of ports:

- TCP/IP
- USB
- Firewire
- LPT
- SCSI
- VideoNet
- VPT
- Print Forwarding
- Print to Windows Printer Driver
- Print to File

The following ports are not tangible printer ports, but are alternative methods to send jobs or prints to the printer:

- Print Forwarding
- Print to Windows Printer Driver
- Print to File

## Print Forwarding

This port forwards print jobs to another RIP-Queue system. This allows you to use one system to process the data, while another system sends the data to the printer.

### ➔ To use Print Forwarding:

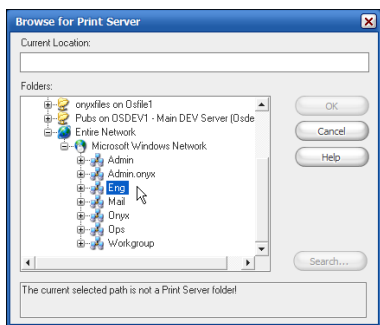


Figure 3—Browse for Print Server

1. Highlight the **Print Forwarding** port on the **Configure Printer Port dialog**, and click **Configure**. This opens the **Browse for Print Server dialog** (see Figure 3).
2. Browse to the input folder of the desired RIP-Queue printer. This should be the printer to which the prints will be forwarded. In most cases, this is on the network within a shared folder called **CONNECTINPUT**.
3. Highlight the desired input folder. This usually has the same name as the printer. The text “This is a valid Print Server Folder” appears at the bottom of the **Browse for Print Server dialog**, and the **OK** button is enabled.
4. Click **OK** in both the **Browse for Print Server dialog** and the **Configure Printer dialog**.

If Print Forwarding does not display in the list, then either your printer driver does not support Print Forwarding or you do not have Printer Forwarding available on your Hardware Key. If your Hardware Key does

not have Print Forwarding, contact your sales representative for a Key Update.

## Print to Windows Printer Driver

You may want to use Print to Windows Printer Driver with certain printers that have printer ports or features that RIP-Queue may not support.

### ➔ To use the Print to Windows Printer Driver:

1. Highlight the **Print to Windows Printer Driver** port on the **Configure Printer Port** dialog.
2. Click **Configure**. This opens the **Select Other Printer** dialog which lists all the available Windows printers (see Figure 4).
3. Choose the Windows printer that matches the RIP-Queue printer. You can also browse to a network printer by clicking **Browse**.
4. Click **OK** on both the **Select Other Printer** dialog and the **Configure Printer** dialog.

## Print to File

Some printers cannot communicate directly with RIP-Queue, but instead use an output file to retrieve the image data. You can also use the Print to File option for troubleshooting purposes.

### ➔ To use the Print to File port:

1. Highlight the **Print to File** port from the list of ports on the **Configure Printer Port** dialog.
2. Click **Configure**. This opens the **Select Print File** dialog (see Figure 5). If the **Printer Port** dialog does not display **Print to File**, then your printer does not support this option.
3. Browse to the location where you want to save the output file.
4. Type a name for the output file. If you want to use a file extension other than the one show by default, choose the appropriate extension from the **Save as Type** drop-down menu.
5. Click **Save**. RIP-Queue automatically creates the output file as a placeholder. The software does not save the actual printer output until the printer prints a job.
6. Click **OK**.

## Using Printer Pools

A Printer Pool is a RIP-Queue printer that has two or more physical printers. Printer pools are an effective tool when printing high-volume jobs. When two physical printers are configured as a printer pool, and each printer has the same media loaded, RIP-Queue automatically sends jobs to the first printer that is ready.

*If **Print to Windows Printer Driver** does not display in the list, then your printer driver does not support this option.*

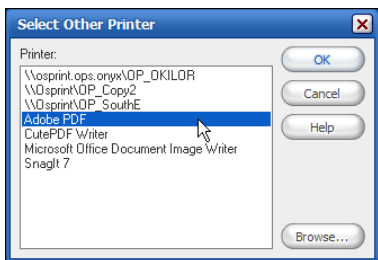


Figure 4—Select Other Printer

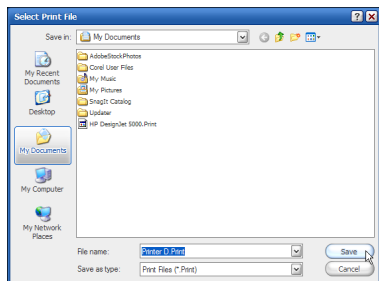


Figure 5—Print to File

*If you cannot increase the number of physical printers, you do not have sufficient Key permissions. Contact your sales representative for a Key Update.*

You can also have each physical printer loaded with a different media. This allows incoming jobs to be sent to the same printer (acting as a printer pool), but without needing to wait for the media to be changed on the printer.

The Physical Printer column in the Configure Printer dialog shows the physical printers associated with the RIP-Queue printer. To increase the number of physical printers, modify the value in the Number of Physical Printers field.

## Managing Media

Use the Media tab of the Configure Printer dialog to import and delete media or to change the media specific options.

### Changing the Media Specific Options

Media options are specific settings that control how the printer functions when using that media. These settings can control the number of passes, pass direction, head temperatures, and so forth.

#### ➔ To change the media specific options:

1. Choose the **Media** tab of the Configure Printer dialog.
2. Select the correct **Media Type** (Media Configuration) from the drop-down menu.
3. Select the correct **Media** from the list.
4. Click **Options** to display the Printer Options dialog (see Figure 6).
5. Modify the media specific options.
6. Click **OK**.

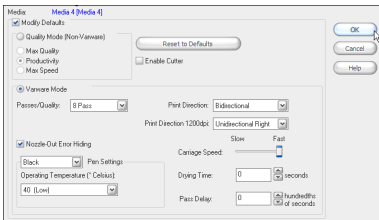


Figure 6—Printer Options

If the Options button is disabled or does not appear on the Media tab of the Configure Printer dialog, then your printer does not support software-controlled media specific options. Change the options on the physical printer to modify how the jobs are printed.

Changing the media specific options for a printer can affect the color quality of the profiles associated with that media. You should re-profile the media if you make significant changes to the media specific options.

#### ➔ To import a media:

1. In the Media tab of the Configure Printer dialog, click **Import**. This displays the Open Media Library dialog.
2. Browse to and highlight the media library (.oml) file which contains the media you want to import, and click **Open**. This displays the Import Media dialog.

3. In the **Import Media** dialog, place a check mark in the checkbox next to the media you want to import, and click **Import**.

### ➔ To delete a media:

1. Go to the **Media** tab of the **Configure Printer** dialog.
2. Select the **Media Type** (**Media Configuration**) from the drop-down menu.
3. Highlight the **Media** you want to delete, and click **Delete**.

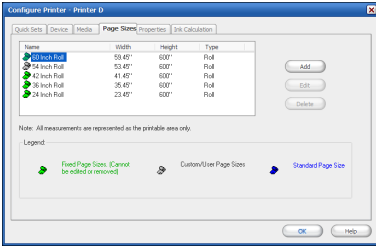


Figure 7—Page Sizes

### ➔ To add a Page Size:

1. Click **Add** on the **Page Size** tab of the **Configure Printer** dialog. This opens the **Add Page Size** dialog (see Figure 8).
2. Choose **Roll** or **Sheet** as the page size type.
3. Choose the units of measurement (**English** or **Metric**) you want **RIP-Queue** to display for the page size.
4. From the **Standard Page Sizes** list, highlight the page size you want to add. You can choose **Custom** if you want to define the width and height of the page size, or you can choose a predefined size from the list. If you choose a pre-defined size, specify the margins for each side of the page.
5. Enter a name for the page size.
6. Click **OK**.

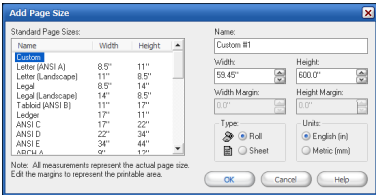


Figure 8—Add Page Sizes

### ➔ To edit a Page Size:

1. Highlight the **Page Size** you want to edit, and click **Edit** on the **Page Size** tab of the **Configure Printer** dialog. This opens the **Edit/Add Page Size** dialog (see Figure 8).
2. Change the options for the **Page Size**.
3. Click **OK**.

### ➔ To delete a Page Size:

1. Highlight the **Page Size** you want to delete.
2. Click **Delete**.

## Renaming a Printer

You can rename your printer to help identify your printers.

## ➔ To rename a printer:

1. Go to the **Properties** tab on the *Configure Printer* dialog.
2. Enter a new name for the printer in the *Printer Name* field.
3. Click **OK**.

## Changing the Base Folder

RIP-Queue uses two special folders to manage jobs:

- Input Folder
- Work Folder

### Input Folder

RIP-Queue uses the input folder to receive incoming image files. It also contains the Hot Folder for each Quick Set. You can automatically send an image to RIP-Queue by copying the image into the input folder or any of the subfolders that represents a Quick Set. When RIP-Queue is running, it automatically moves images from the input folder (and Hot Folders) to the work folder where they are kept for processing, printing, and archiving.

### Work Folder

The work folder is where RIP-Queue keeps the image files for processing, printing, and archiving. RIP-Queue also uses the work folder to keep system files that control the state of the printer.

Another folder, called the Base Folder, is the parent directory of both the input folder and the work folders. The Base Folder is the RIP-Queue program folder by default. You may want to change the Base Folder to a different hard drive to allow faster access time to the image and job files found in the input and work folders.

## ➔ To change the Base Folder:

1. Select the **Properties** tab from the *Configure Printer* dialog.
2. From the *Base Folder* location of the *Properties* tab, click **Change**. This opens the *Browse Folders* dialog (see Figure 9).
3. Browse to the location of the folder you want to use as the *Base Folder*, or click **New Folder** to create a new folder.
4. Select the folder you want to use.
5. Click **OK**.

Because the input and work folders can contain many large files, changing the Base Folder can take several minutes.

For more information on Hot Folders, read the *Using Hot Folders* section of the *Setup & Printing* chapter, or see the *Help Files* in your program.

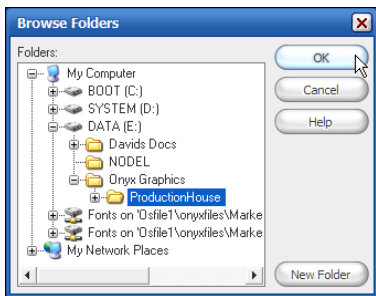


Figure 9—Browse Folders

## Ink Calculation

Use the Ink Calculation tab of the Configure Printer dialog to define the Reporting Unit (cost per unit) and if necessary, adjust the Correction Factor (ink drop volume). Each Resolution/Ink Type combination can be defined and the reporting values adjusted per ink channel.

### Define the Reporting Unit

Before you configure your reporting units, determine the volume of your cartridge and divide it by the cost of the cartridge. The Cost/Volume = the custom unit per volume measured.

#### ➔ To define the reporting unit:

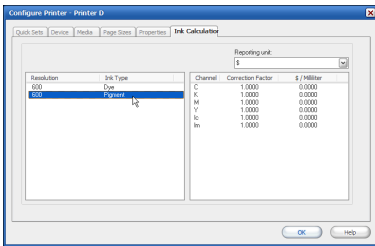


Figure 10—Ink Calculation

1. In the Ink Calculation tab of the Configure Printer dialog, select the Resolution and Ink Type you want to use (see Figure 10).
2. Select the **Reporting Unit Type** from the drop-down menu.
3. Calculate the cost per unit. (e.g., 680ml cartridge that costs \$239.99 = \$.35/ml)
4. Enter the cost per unit for each ink channel by clicking in the field and typing in the cost.

### Adjust the Correction Factor

Each printer has a built-in default factor to determine ink usage per drop. The default is set at 1 and takes into consideration known variables for the device in an ideal working environment. When you print a job using the default factor, the values reported reflect ink calculations based on the printer manufacturer's specifications and are interpreted internally by the RIP-Queue which reports the data.

Because the reported data does not take into consideration variations in the printer or working conditions, with some work on your part, it can be fine-tuned to more accurately reflect your conditions. To fine tune your correction factor, compare other known values with the reported values from RIP-Queue to find the new correction factor.

Here are some simplified examples for fine tuning your correction factor if the reported data is different from the known data. In each case, dividing the known factor (X) by the reported factor (Y) will give you your specific Correction Factor.

- The printer reports how much ink is being used as a known value (X). In RIP-Queue, compare the known value to the reported usage by print job (Y).
- Install a new ink cartridge with known volume (X) and print until



it's empty. In Rip-Queue, print the job log and manually calculate the total ink reported (Y) by adding up the ink used for all the jobs printed with that ink cartridge.

- Physically weigh an ink cartridge before and after it prints. Convert the mass to volume to get the exact known consumption (X). In RIP-Queue, compare that to the reported usage by print job (Y).

## Managing Printers

Use the Printer Manager to perform the following tasks:

- Configure a Printer
- Activate a Printer
- Deactivate a Printer
- Delete a Printer
- Create a PRNINST
- Duplicate a Printer

To open the Printer Manager, choose **Manage Printers** from the File menu (see Figure 11). Before you manage your printer in RIP-Queue, make sure no jobs are processing or printing. Because the printer management options affect how RIP-Queue is configured, all processing and printing stops when you access the Printer Manager.

### Activating a Printer

The Printers list in the Printer Manager dialog shows all the printers installed on your system. An active printer contains a check mark in the box next to the printer name. You can only activate a certain number of printers based on your program. RIP-Queue displays the number of active printers allowed at the bottom of the Printer Manager dialog, as well as in the Hardware Key dialog (see Figure 12). To increase this number, contact your sales representative for a Key Update.

### Deactivating a Printer

To deactivate a printer in the Printer Manager, remove the check mark from the checkbox next to the printer's name. When you deactivate a printer, RIP-Queue retains the printer port settings, Quick Sets, and jobs assigned to that printer; however, the printer will not appear in the Printers list of the RIP-Queue window. If you reactivate a printer, RIP-Queue restores all the settings and jobs to the state they were in when you deactivated the printer.

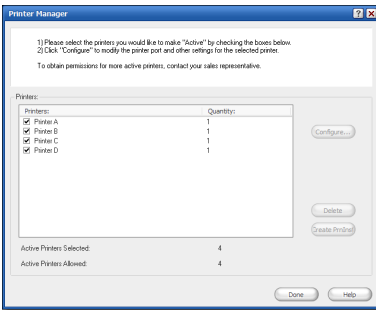


Figure 11—Printer Manager

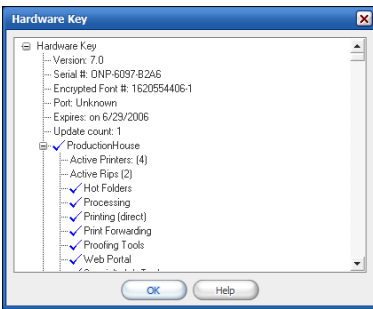



Figure 12—Hardware Key



*You may want to deactivate a printer if you do not have enough active printer permissions for all your printers.*



*Deleting a printer removes all jobs associated with that printer.*

## Deleting a Printer

If you want to permanently delete a printer from your system, highlight the printer in the Printer Manager, and click **Delete**.

## Creating a PrnInst

A PrnInst is a RIP-Queue Printer Installation file. PrnInst files include all the files necessary to install a printer in RIP-Queue, such as the profile library information (medias and profiles), Quick Sets, and system files (such as .dlls).

You may want to use the create PrnInst feature for several reasons:

- Backing up your printer settings
- Backing up your media profiles
- Installing a copy of the printer on a different RIP-Queue system
- Distributing a custom-made printer installation

### ➔ To create a PrnInst:

1. In *RIP-Queue*, select **Printer Manager** from the *File* menu. This opens the *Printer Manager* dialog (see Figure 11).
2. In the *Printer Manager* dialog, highlight the printer for which you want to create a PRNINST.
3. Click **Create PrnInst**. This opens the *PRNINST Options* dialog.
4. In the *PRNINST Options* dialog, select the options you want to include with the new PrnInst file by placing a check mark in the checkbox next to the desired option. Click **Next** to open the *Save As* dialog.
5. In the *Save As* dialog, enter a name for the new PrnInst file in the *File Name* field, and click **Save**.

## Duplicating a Printer

Use the Duplicate option to create a new printer that is an exact copy of an existing one. This option is useful if you have more than one printer of the same type.

Duplicating a printer is different than printer pooling. The printers in a pool share the same profile library and Quick Sets, and anytime you add or modify a media or profile, it applies to all the printers in the printer pool.

Duplicate printers are completely separate printers, each with distinct profile libraries and Quick Sets. If you add or modify a media, profile, or Quick Set to either of the duplicate printers, the printers are no longer identical.

### ➔ **To duplicate a printer:**

1. *In Printer Manager, right-click the printer you want to duplicate to display a list of options.*
2. *Choose **Duplicate** from the list of options.*

After RIP-Queue duplicates the printer, verify that the new printer is active by making sure the checkbox next to the printer name contains a check mark. Duplicating a printer can take several minutes.

## Objectives

This chapter will show you how to setup proofing. By the end of the chapter, you will know how to do the following:

- Compare printer gamuts
- Configure proofing printers
- Verify the proof

## What is Proofing?


Proofing is the process of simulating the output of one printer on another device. This concept has long been used in traditional printing industries like commercial offset printing where getting ready to print is very labor intensive and expensive. These industries use a small, inexpensive printer to proof or simulate the way a printing press images color.

## Proofing Basics

One of the primary purposes of printing a proof is to give you an idea of what the final output will look like. Proofs can help you identify problems with your image without having to print the final product. While at times you may require a press proof (an exact copy) of the final output, press proofing involves printing the image to the final media using color reproduction technology. This can take time and be expensive. In most cases, you only need a simulation proof. A simulation proof does not provide an exact copy of the final output, but a representation of the final output.

If you determine that a simulation proof is acceptable in your situation, it is important that you understand that the proof may not exactly match the final output and that it may fall short of the original.

To proof an image, RIP-Queue requires that you have a minimum of two active printers. One will act as your final output printer; the other as your proofing printer. Your final output printer is the printer on which you will print the final image. The proofing printer is the printer on which you will proof your image. This allows you to review a representation of your image without using the ink and media of the final output printer.



*To use Proofing, you must have that feature enabled on your Hardware Key. Contact your sales representative for a Key Update.*

To proof an image properly, you must meet the following conditions:

- Your proofing printer should match the color of your final output printer as closely as possible. This depends upon the compatibility of the proofing gamut and the final output gamut. In general, the gamut of the proofing media should completely encompass the gamut of the final output media. If the gamut of your final output media falls outside the gamut of the proofing media, the proofing printer cannot provide an exact color reproduction.
- You need accurate profiles for both the output printer and the proofing printer.
- Ensure that you maintain and calibrate both printers regularly to ensure that the target densities are accurate.
- Ensure that the calibration of your proofing printer is correct by using the Verification Strip and the Visual Tolerance Chart.

## Before Proofing

Before you proof an image, ensure that your proofing printer is capable of reproducing the colors of the output printer and determine, in RIP-Queue, which printer you will use as your proofing printer. The following sections describe how to set up your proofing process:

- Comparing Printer Gamuts
- Configuring a Proofing Printer

### Comparing Printer Gamuts

The first step in the proofing process is to determine whether your proofing media completely encompasses the gamut of your final output media. This ensures that your proofing printer can accurately reproduce the colors of your final output printer. To compare your proofing gamut with your final output gamut, use the MediaAnalyzer tool.

### MediaAnalyzer Tool

The MediaAnalyzer tool allows you to visually compare two gamuts at the same time (see Figure 1). The tool contains a Left Configuration, a Right Configuration, and a Gamut Data View in the center where it maps a rough wire frame representation of up to two gamuts on an  $L^*a^*b^*$  axis (see Figure 4). This allows you to determine if your proofing gamut fully encompasses the final output gamut. If the proofing gamut does not cover the final output gamut, it cannot accurately reproduce the desired colors.

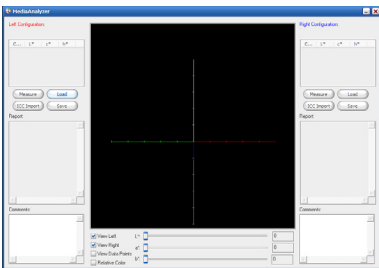


Figure 1—MediaAnalyzer Tool

## → To open the MediaAnalyzer tool:

1. Browse to the **MediaAnalyzer** folder on **ONYX Graphics\Production House\preflight** directory.
2. Double-click **MediaAnalyzer.exe**.

The MediaAnalyzer tool can capture gamut configurations from either a measuring device by clicking **Measure** or by importing the information from an ICC Profile by clicking **ICC Import**. You can directly load an ICC Profile from a .PrnLib file or from a .PrnInst file. Clicking **Save** allows you to save a gamut configuration for viewing later. Clicking **Load** allows you to open a previously saved gamut configuration.

Use the options at the bottom of the MediaAnalyzer window to control what data displays in the Gamut Data View. Each slider control allows you to rotate the gamut view along an axis. The L\* axis runs vertically in the Gamut Data View while both the a\* and b\* axis run horizontally. For the most part, you will want to move the L\* slider to rotate the view around the L\* axis, which allows you to view the various hues. Because MediaAnalyzer provides a 3-dimensional perspective view, the parts of the gamut and L\*a\*b\* axis that are closer to you appear further from the center of the view.

Use the MediaAnalyzer tool to analyze your ICC Profiles and compare the color gamuts of your proofing printer and final output printer.

## The Proofing Printer

First, view the gamut for the proofing printer.

## → To view the gamut:

1. Launch the MediaAnalyzer by browsing to your **ONYX Graphics > Production House > Preflight** directory and double-clicking **MediaAnalyzer.exe**. This displays the MediaAnalyzer window (see Figure 1).
2. In the MediaAnalyzer window, click **ICC Import** in the Left Configuration section to display the Open dialog (see Figure 2).
3. In the Open dialog, browse to the **ONYX Graphics > Production House > Common** Folder. This folder lists all the installed printers with their associated .PrnLib files (see Figure 3).
4. Highlight the proofing printer's PrnLib (the printer on which you want to print a proof), and click **Open**. This displays the Select Profile dialog.
5. Select the desired profile, and click **OK**. The MediaAnalyzer tool displays a red wireframe which represents the gamut of the proofing profile (see Figure 4).

The Select Profile dialog displays a list of printer profiles for the selected

To view the gamut from the top, set the a\* slider to 85; to view the gamut from the bottom set the a\* slider to 265.

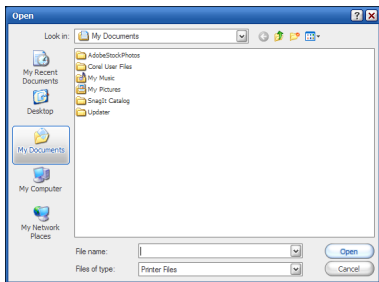


Figure 2—Open

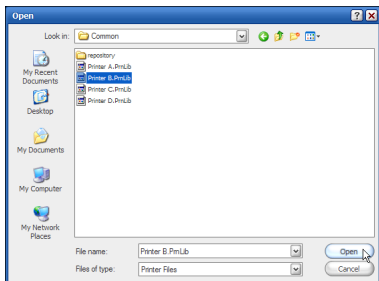


Figure 3—Common Folder

.PrnLib file. Each item in the list represents a separate printer profile and uses this format: MediaConfig~Resolution~PatternID~Name.

The PatternID indicates which dot pattern this profile was created for. The Pattern IDs are as follows:

- 0 = FDRP
- 1 = FDRP Line
- 2 = FDRP Plus
- 3 = Ordered Dither
- 4 = Screen
- 5 = Stochastic
- 6 = Contone
- 7 = Smooth Screen

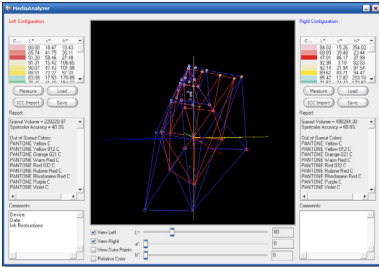


Figure 4—Gamut Wireframes

## The Final Output Printer

Next, view the gamut of the media you want to proof:

### ➔ To view the gamut:

1. In the MediaAnalyzer window, click **ICC Import** in the Right Configuration section. This displays the Open dialog.
2. In the Open dialog, browse to the **ONYX Graphics > Production House > Common Folder**. This folder lists all the installed printers with their associated .PrnLib files.
3. Highlight the final output printer's PrnLib (the printer you want to proof), and click **Open**. This displays the Select Profile dialog.
4. Select the desired profile, and click **OK**. The Media Analyzer tool displays a blue wireframe which represents the gamut of the final output profile (see Figure 4).

## Reviewing the Gamut Data

Once the MediaAnalyzer tool displays both gamut wireframes, review the Left and Right Report windows (see Figure 5). The Gamut volume value for the proofing gamut should generally be as big or bigger than the gamut of the media that is being proofed.

Use the L\* slider to rotate the gamuts and ensure that the blue (proofed) gamut is entirely inside the red (proofing) gamut. Note any places where the blue proofed gamut falls outside the red proofing gamut. This indicates that the proofing media cannot accurately reproduce these colors.

It is important to understand the limitations of the proofing media as this sets the proper expectations. In some cases, you may feel that it is acceptable for parts of the final output gamut to fall outside the proofing

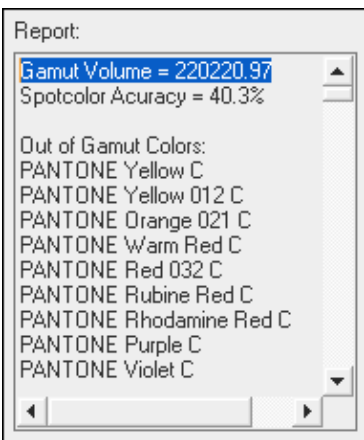


Figure 5—Gamut Report

gamut; however, this depends entirely upon your situation and expectations. In general, the proofing process is designed to help you understand the expected output, even if the proof is not an exact replica.

Once you determine how your proofing printer and selected media will reproduce the colors of your final output printer and media, you need to configure your proofing printer.

## Configuring a Proofing Printer

When you configure a printer for proofing, you select the final output printer and then determine which printer and settings you want to use for proofing.

### ➔ To configure a proofing printer:

1. In *RIP-Queue*, highlight the printer you want to use for the final output.
2. Click **Configure Proofing**. This opens the *Proof Creation Settings* dialog (see Figure 6).
3. Use the **Printer** drop-down menu to select the printer you want to use for proofing.
4. Select the desired **Quick Set** for the proofing printer.
5. Set the **Maximum Width** and **Height** for the proof. This does not set the actual width and height, it simply sets a limit on the size of the proof. The actual output of the proof will be in proportion to the original job.
6. Enable **Proof All Pages** if you want to print all the pages of a multi-page document. Disable this option to only print a proof of the first page.
7. Select the desired **Rendering Intent** using the drop-down menu.
8. Use the **Pure Hues** area to select which colors you want to exclude from the ICC workflow.

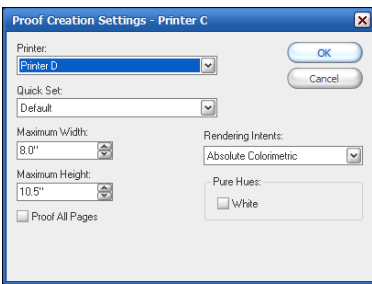


Figure 6—Configure Proofing

Once you configure your printer, you have completed the necessary setup, and you are ready to print a proof.

## Printing a Proof

You can print a proof using any of three methods:

- From a selected job in *RIP-Queue*
- From Preflight
- Automatically using a Quick Set

### ➔ To print a proof from a selected job in *RIP-Queue*:

1. Highlight the desired job in the *Jobs Ready to Print* or the *Buffered Jobs Area* of the *RIP-Queue* window.



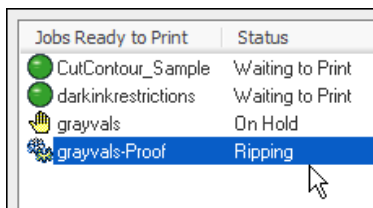


Figure 7—Proofing

Make sure that the job you highlight for proofing is originally set to print on the final output printer.

2. Right-click the highlighted job, and select **Proof**.
3. RIP-Queue creates a new job in the Jobs Ready to Print area and appends -Proof to the job name. RIP-Queue also places the original job on hold until you release it (see Figure 7).

Depending on the Quick Set and Media Placement settings, the proof image previews, rips, and prints just as a normal job.

While you can manage proofs in the same way as any other job, you should not need to open a proof job in Preflight nor should you edit any color management or color correction settings. This defeats the purpose of a proof—mimic the output of another printer. However, you can modify the color management, size, etc., of the original job in Preflight.

## Proofing from Preflight

You can submit for proofing any image you modify in Preflight. This allows you to apply changes such as color filters or cropping to an image and then submit those changes to the proof printer before tying up the final output printer.

### ➔ To print a proof from Preflight:

1. Open the desired job in Preflight by right-clicking the job in the Jobs Ready to Print area of RIP-Queue and selecting **Edit > Job in Preflight**. If you open a job into Preflight using another method, you will not have the option to submit the job as a proof.
2. Use the tools in Preflight to make any necessary crops, edits, or color changes. It is acceptable to make color changes at this point because you are changing the original image before you proof it. However, it is important that you do not open the proof image into Preflight and modify the color.
3. Once you have made the desired changes, click the **Print** tab in Preflight (see Figure 8).
4. Click **Submit Proof**. RIP-Queue creates a new job in the Jobs Ready to Print area and appends -Proof to the job name. RIP-Queue also places the original job on hold until you release it.

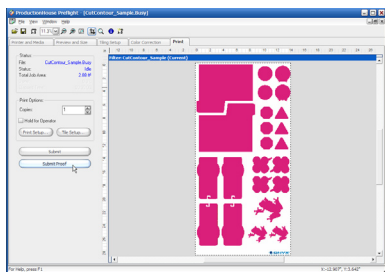


Figure 8—Proofing from Preflight

Depending on the Quick Set and Media Placement settings, the proof previews, rips, and prints just as a normal job.

After the proof is ready, review the results. If necessary, you can edit the color of the original image again and submit another proof. Do this until you achieve the desired result.

## Proofing Automatically Using a Quick Set

You can create a Quick Set for your final output printer which automatically sends a proof file to the proofing printer. Use this option if you regularly print a proof before printing your final output.

## ➔ To print a proof using Quick Sets:

1. Highlight the final output printer in RIP-Queue.
2. Click **Edit Quick Set**. This opens the Edit Quick Sets window.
3. Highlight the Quick Set you want to configure, and click **Edit**. This opens the Edit Quick Set dialog.
4. Click **Advanced**. This opens the Edit Quick Set—Advanced Options dialog (see Figure 9).
5. In the Workflow Tab, enable the **Create Proof Automatically** check box.
6. Click **OK**.

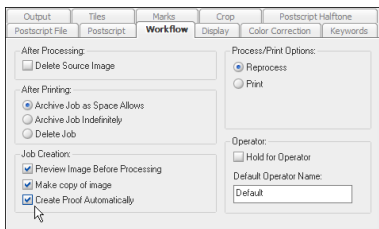


Figure 9—Proofing Using Quick Sets

Each time you apply this Quick Set to an image, RIP-Queue creates a new job in the Jobs Ready to Print area and appends *-Proof* to the job name. RIP-Queue places the original job on hold until you release it.

## Verify the Proof

In order for your proofing printer to be accurate, it is important that you properly calibrate the proofing media. However, due to environmental variables and printer wear and tear, calibrations tend to drift. In other words, they lose their accuracy.

It is important that your proofing printer's calibration be accurate to ensure that it is producing the correct colors. Printing a Visual Tolerance Chart (located in the ONYX Graphics\Production House\Samples folder) on the proofing printer immediately after calibrating the proofing media gives you an accurate reference point. When you print a proof, you can ensure that your proofing printer is producing accurate output by checking the Verification strip which prints at the bottom of each proof against the Visual Tolerance Chart. You should print a Visual Tolerance Chart for each media, ink, resolution, and dot pattern that you will be using.

## Visual Tolerance Chart

The Visual Tolerance Chart displays several sets of patches along with varying differences of lightness, saturation, and hue which correspond to the patches on the Verification strip (see Figure 10). This helps you to determine if your proofing printer's output is accurate.

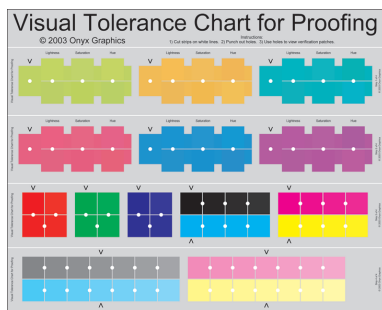


Figure 10—Visual Tolerance Chart

## ➔ To print a Visual Tolerance Chart:

1. In RIP-Queue select **Open** from the File menu. This displays the Open dialog.
2. Browse to the **ONYX Graphics\Production House\Samples** directory.



*Keeping the strips of the Visual Tolerance Chart in an envelope will prevent fading.*

3. Highlight the file named **VisualToleranceChart.tif**.
4. In the Open dialog, use the Printer drop-down menu to select your proofing printer.
5. Use the Quick Sets drop-down menu to select the **All Profiles Off Quick Set**. If you do not already have an All Profiles Off Quick Set, open the Job into Preflight and set your profile selections there.
6. Click **Open**. The image processes and prints according to your printer and Quick Set settings.

Once you print the Visual Tolerance Chart, cut it into strips along the white lines and, using a paper hole puncher, punch holes where indicated by the white circles. Make sure there are no white borders around the holes. Print a new Visual Tolerance Chart each time you recalibrate a media.

## Verification Strip

Now that you have printed the Visual Tolerance Chart, you can compare it to the Verification strip which prints at the bottom of each proof to check the accuracy of the media calibration.

### → To verify the calibration of the proofing media:

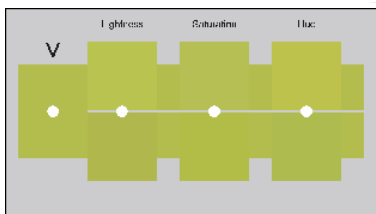


Figure 11—Strip One

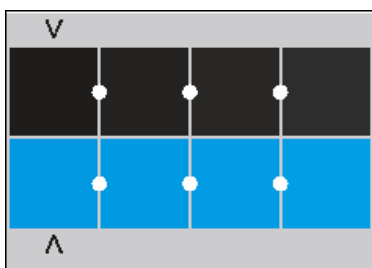


Figure 12—Strip Three

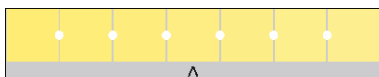


Figure 13—Strip Four

1. Using strip one of the Visual Tolerance Chart, place the hole of the patch marked with a V over the first patch of the Verification Strip. Make sure that the colors are identical (see Figure 11). Repeat this step, comparing each set of patches in strips one and two of the Visual Tolerance Chart with the corresponding patch in the Verification strip.
2. If your verification strip does not match the patch with a marker (V), use the other patches in the set to determine whether your proof is within the visual tolerance range—lighter/darker, under saturated/over saturated, or a different hue.
3. Using the set of patches on strip three of the Visual Tolerance Chart, place the hole nearest the patch marked with a V over the corresponding patch on the Verification Strip. Make sure that the colors are identical (see Figure 12). The verification patches should match the densest corresponding patch on the Visual Tolerance Chart.
4. Ensure that the last four patches on the Verification Strip are within the color range of the corresponding patches on strip four of the Visual Tolerance Chart (see Figure 13). For example, compare the last yellow patch on the Verification Strip against all the yellow patches on strip four of the Visual Tolerance Chart. The Verification patch should match the patch marked with a V.

# Color Management & ICC Profiles

## Objectives

This chapter will take you through Color Management and ICC Profiles. By the end of this chapter, you will have an understanding of the following items:

- Color Management & Color Theory
- ICC Profiles
- Color Management Options
- Profile and Calibration Terminology

## What is Color Management?

Color Management determines the color characteristics of your images in RIP-Queue by using color spaces and profiles. Understanding and using proper Color Management will help you achieve quality output color.

## What is an ICC Profile?

The ICC (International Colour Consortium) sets the standards for color management in the imaging industry. An ICC profile lets one device know how another device has created its colors and how those colors should be interpreted or reproduced. Simply put, ICC Profiles help ensure that you have accurate color.

## Color Theory

Color theory is a set of basic rules for mixing color to achieve a desired result. Because color can be formed using both additive (RGB) and subtractive (CMYK) methods, two different definitions, or color spaces, were developed to describe color.

### RGB

RGB color is based on the light spectrum, and it breaks color down into an RGB representation. In other words, all color is defined by a certain amount of R (red), G (green), and B (blue). Light emitting devices such

*If you are unfamiliar with the theory behind Color Management, read the Color Theory section of this chapter. If you are familiar with Color Theory, skip ahead to Color Management Options.*

as TVs and computer monitors function in this manner. If you were to turn your monitor off, you would see black because no R, G, or B colors are present. This would be represented as RGB% 0,0,0. If you were looking at a white screen, this would be represented as RGB% 100,100,100 because each red, green, and blue source is shining at full potential. Other colors are created by combining various amounts of R, G, and B. True white light is composed of a full spectrum of all light colors, but RGB is close enough for most standards. RGB is referred to as an additive color theory because when you add all the colors together, you get white.

## CMYK

CMYK color is based on colorants and is referred to as a subtractive color theory because you get white by taking away color. C (cyan), M (magenta), and Y (yellow) are used to create color. In theory, an equal amount of C, M, and Y would create K (black), but the result in practice is actually a muddy brown. Because of this, K is added to create pure blacks and other dark colors. K is also an economical solution since K ink is less expensive than C, M, or Y.

Because RGB color spaces are defined by light and not colorants like CMYK, RGB devices generally have a much larger color gamut. This creates some problems because the color on your monitor can be different than what is printed.


## Device-Dependent Color Spaces

RGB and CMYK are referred to as device-dependent color spaces because the colors defined in these spaces are intrinsically tied to the devices they are defined on. A device may refer to a printer, scanner, monitor, or any device in which color is created. For example, in a television showroom each television has a slightly different color even though they are displaying the same program—they each have their own unique RGB color spaces. Likewise, printers have a unique CMYK color space that varies slightly from printer to printer.

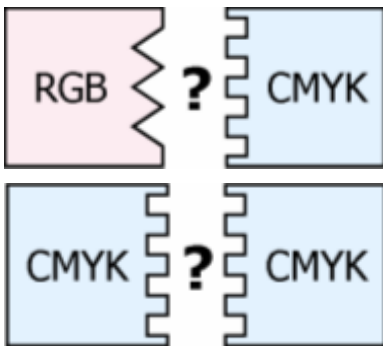
Colors that are defined in device-dependent color spaces cannot accurately be changed to any other device-dependent color space in a direct process because they are not compatible (see Figures 1 & 2). Like an interpreter, you need something that can communicate with both RGB and CMYK.

## Device-Independent Color Spaces

In 1976, a mathematical color space was created that could be used as an



*A color gamut is the range of colors that are possible. For example, a color printer has a much larger gamut than a black and white printer because a color printer has more color options.*



Figures 1 & 2—Device-Dependent Color Spaces

**!** To ensure consistency, the  $L^*a^*b^*$  color space must be viewed in a controlled light or color temperature. If you try to match a 5000° K (D50) light-box to an image on a 6500° K (D65) monitor, the colors will appear different. You can use any light value, as long as you always use the same value in each step of the workflow.

**0** Because the  $L^*a^*b^*$  color space is theoretical, it has no gamut limitation. RGB and CMYK each have a restricted gamut and each gamut is different.

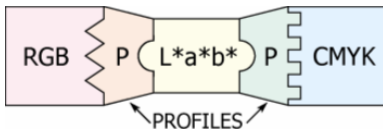


Figure 3— $L^*a^*b^*$  and Profiles

**!** Use caution when dealing with an input source that has a gamut significantly different than the gamut of the output source because they can be impossible to correctly match.

interpreter— $L^*a^*b^*$ . This color space is now the standard method used to interpret between two device-dependent color spaces. Because  $L^*a^*b^*$  is not dependent on any color space, it is called a device-independent color space.

The  $L^*a^*b^*$  color space has three different components— $L^*$ ,  $a^*$ , and  $b^*$ .  $L^*$  is the lightness value which ranges from 0 (no lightness) to 100 (maximum lightness);  $a^*$  determines the red-to-green value and ranges from +128 (red) to -128 (green); and  $b^*$  defines the yellow-to-blue value and ranges from +128 (yellow) to -128 (blue).

Because the  $L^*a^*b^*$  space is a fixed standard, any defined value will always be accurate.  $L^*a^*b^*$ : 65,5,-110 can be correctly understood by an  $L^*a^*b^*$  compatible program or device as the exact shade of blue that it was originally designed as. In comparison, you cannot accurately measure the actual CMYK and RGB color spaces.

Once an  $L^*a^*b^*$  value is defined, accuracy can be guaranteed within the realms of the  $L^*a^*b^*$  space—but the source and the target of a particular color is almost always either RGB or CMYK. Because each device-dependent space is different, the idiosyncrasies and gamut restrictions must be taken into account before a translation to the  $L^*a^*b^*$  space can occur. This is done with a profile (see Figure 3).

Profiles can be referred to as ICC Profiles, ICM Profiles, or Color Management Profiles and have either the .icc or .icm extension. RIP-Queue supports both formats, and both formats may be used interchangeably in RIP-Queue.

## ICC Profiles

An ICC Profile correctly maps a particular device-dependent color space to an  $L^*a^*b^*$  standard. A profile also works in a reverse manner to map an  $L^*a^*b^*$  value to a device-dependent space. For example, when you scan an image the original color space (of the scanner) is RGB. Applying a profile to the image correctly converts the RGB data to an  $L^*a^*b^*$  color space. Then, applying another profile accurately changes the  $L^*a^*b^*$  values to CMYK in order to print the image (see Figure 3). If each profile is accurate, the colors of the printed image match the colors of the original image.

It is important to note that profiles are tied to the color space they were created in. That means that the profiles, too, are device-dependent. Therefore, if you create a profile for one printer, it may not be accurate if you use it for another printer.

You can apply ICC profiles to either convert a device-dependent color

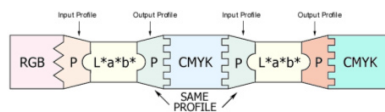


Figure 4—Conversions using L\*a\*b\* and Profiles

space to L\*a\*b\* or to convert L\*a\*b\* to a device-dependent color space; in other words, you can use most ICC Profiles as either an input or an output profile. The only difference between an input and an output profile is how you use the profile. However, remember that profiles are device-dependent, and using an input profile as the RIP-Queue output profile (or vice-versa) can cause undesirable color changes in your printed image.

Input profiles convert the device-dependent color space of the image to L\*a\*b\*, and output profiles convert L\*a\*b\* to the device-dependent color space of the output device or file (see Figure 4). Because the output of RIP-Queue is the printed image, the output profile is the default ICC Profile for the media in the printer.

## Input Profiles

Because profiles are device-dependent, you should select appropriate input profiles for both CMYK and RGB color spaces. RIP-Queue also allows separate profiles for images (raster data) and vector objects (PostScript data). You can also choose a profile for one type and choose not to use a profile for another.

## Output Profiles


The output profile used in RIP-Queue is the Default Printer ICC profile for the printer, media, dot pattern, and resolution combination you are using.

## Rendering Intents

You can also select a rendering intent for the output profile from the ICC Profile Setup dialog. Rendering Intents control how a profile is applied and how the colors are mapped from one gamut to another (how the profile maps colors within the image that are not achievable by the printer gamut). Because printers must take into account gamuts, white point, and other variable factors, rendering intents allow one profile to be used for different circumstances.

You can choose a rendering intent for both images (raster data) and vector objects (PostScript data). You can also choose from the following options: Perceptual (Images), Saturation (Graphics), Relative Colorimetric, Absolute Colorimetric, and Poster Color. To choose these options, click on the down arrow for either Images or Vector.

- **Perceptual (Images)**—this gives your images pleasing color. It adjusts all the colors in the image to control the colors that are outside the gamut of the output profile. Every color changes slightly,



*For more information on Proofing, read the Proofing chapter, or see the Help Files in your program.*

but the overall results of your image look pleasing because the relationship between the colors stays the same. This is the default setting for images.

- **Saturation (Graphics)**—this gives you the best solid hues. It takes all colors and scales them to the brightest saturation possible. This is most suitable for printing when color impact is more important than color accuracy, such as when you want to print vector (PostScript) data with bold and bright colors.
- **Relative Colorimetric**—this is used for proofing when you do not want to simulate the final output substrate color. It accurately reproduces the colors within the printers' range but does not attempt to accurately render the out-of-gamut colors. This can result in some strange color patterns because the final colors that are out-of-gamut are not reproduced. This setting uses the color of the output media as the white point. When proofing, this proofs only the image, and assumes that the media used is the same as the final media.
- **Absolute Colorimetric**—this is used for proofing when you want to simulate the final output substrate color. It accurately reproduces all the colors within the printer's range, but adjusts the out-of-gamut colors so that they fall within the range of the printer. This setting simulates the white point of the input profile. For proofing, this proofs both the image and the media.
- **Poster Color**—this rendering intent, created by ONYX Graphics, Inc. to allow for an improved CMYK color workflow, preserves hue and relative saturation by mapping the input CMYK gamut directly to the output CMYK gamut. If the output gamut is larger than the input gamut, the output will be more colorful than the source image. Use this rendering intent with a CMYK source workflow. Using this rendering intent with an RGB source workflow provides the same results as the perceptual rendering intent.

## ***L\*a\*b\* Image Files***

Although most images require an input profile to be processed correctly, L\*a\*b\* files (image files with an L\*a\*b\* color space) do not use an input profile. Using L\*a\*b\* files is highly recommended because they avoid an initial conversion from RGB or CMYK, which guarantees more accurate color. RIP-Queue supports both L\*a\*b\* TIFF and PSD files.

## ***Embedded Profiles***

Because the input profile of an image should match the output profile of the software or device it came from, many programs facilitate the ap-





If an image contains an embedded profile, you can still overwrite the embedded profile and use another input profile instead.

plication of profiles by using Embedded Profiles. When an application embeds a profile, it automatically packages the profile with the image. When possible, you should use the embedded profile bundled with an image because it will most accurately interpret your image.

For example, if you create an image in Photoshop and save it as a TIFF file with embedded profiles applied, Photoshop encodes the profile into the TIFF file to be used as the input profile in another application. When you bring that image into RIP-Queue, the profile is automatically available for your use.

The embedded profile displays in the ICC Profile Setup dialog as *Image's Embedded Profile*. RIP-Queue does not display the actual name of the profile. Because of this, you should always check that the correct profile is defined before you export or save the original image file.

## Color Matching Table

The Color Matching Table is a lookup table for named process (spot) colors. For example, if you have a PostScript file that uses a custom-defined color called *SPOTCOLOR Yellow C*, RIP-Queue can use the specific L\*a\*b\* values associated with that color when processing and printing the image.

The Color Matching Table only applies when using PostScript files with named process colors. When a PostScript file contains a named process color that is listed in the Color Matching Table, RIP-Queue ignores the vector input profiles and calculates the output color value directly using the L\*a\*b\* value of the process color and the default output profile of the printer. Refer to the online help for more information concerning the Color Matching Table.

## Color Management Options

Because there are so many different settings that control color, RIP-Queue groups these settings into Color Management options to facilitate managing the color settings.

When you select a Color Management option in Preflight or in a Quick Set, you do not have to select individual settings, such as the input and output ICC Profiles, because selecting the Color Management option automatically sets those options for you. However, if you do want to change the individual profiles, click **Change Profiles** from Edit Quick Sets to open the ICC Profile Setup dialog.



You can also access the ICC Profile Setup dialog from Preflight by clicking the Printer and Media tab and then Change Profiles.

## Setting a Color Management Option in a Quick Set

If you want to use a specific Color Management option for future images, edit a Quick Set and select that Color Management option.

### ➔ To access the Color Management option for a Quick Set:

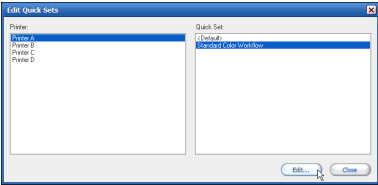


Figure 5—Edit Quick Sets

1. Highlight the printer that uses the Quick Set you want to modify.
2. Click **Edit Quick Sets** on the Toolbar. This opens the Edit Quick Sets menu.
3. Highlight the **Quick Set** you want to modify, and click **Edit**. This opens the Edit Quick Set dialog (see Figure 5).
4. Select the **Color Management** option you want to use.
5. Click **Change Profiles** if you want to select individual profiles using the ICC Profile Setup dialog.

## Setting a Color Management Option in Preflight

If you want to specify a particular Color Management option for a single image, open the image in Preflight and change the Color Management option. If you change the Color Management options for a job, you will need to reprocess the job before you can reprint it.

### ➔ To change the Color Management option in Preflight:

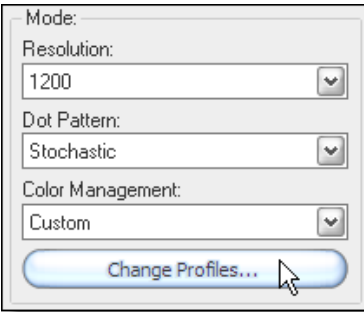


Figure 6—Mode Area

1. Open the image in Preflight.
2. Click the **Printer and Media** tab.
3. Modify the **Color Management** option in the Mode area (see Figure 6).
4. Click **Change Profiles** if you want to select individual profiles using the ICC Profile Setup dialog.

## ICC Profile Setup

Use the ICC Profile Setup dialog to specify individual profiles for image and vector aspects of a particular color space (see Figure 7). Depending on the type of image you are working with, different options display in the ICC Profile Setup dialog. For example, if you are working with an RGB image, RIP-Queue disables the CMYK options; if the job is a CMYK image, then it disables the RGB options. PostScript files generally contain more than one data type, so RIP-Queue enables both the RGB and the CMYK sections when you are working with a PostScript file. However, when working with a PostScript file, one or both sections (RGB or CMYK) can be ineffective if there are no such color space elements in the image. RIP-Queue disables both the CMYK and the RGB

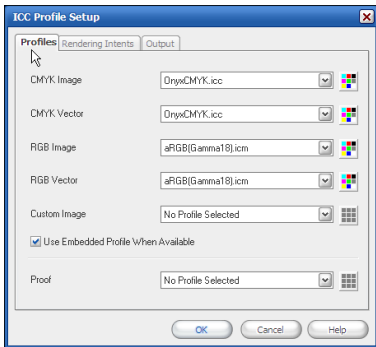


Figure 7—ICC Profile Setup

input profile selections when working with L\*a\*b\* data. When creating or editing a Quick Set, RIP-Queue enables all options.

You can also set output profile and rendering intents in the ICC Profile Setup dialog. Use the following tabs and options to set the input and output profiles, as well as the rendering intents, for your image:

## Profiles Tab

You can use the Profiles tab to set the following options (see Figure 7):

- **CMYK Image**
- **CMYK Vector**
- **RGB Image**
- **RGB Vector**
- **Custom Image**—this option applies a profile to any image format other than CMYK or RGB (e.g., CMYKOG, CMYKRB)
- **Use Embedded Profiles When Available**—disabling this option causes RIP-Queue to ignore embedded profiles.
- **Proof**—this option allows you to simulate a specific color space or device.
- **Pure Hues**—if you want to print your primary process colors without the profiles, click **Pure Hues** (the button with the colored squares; see Figure 8). Using Pure Hues applies the profile to all the colors except those with the checkbox selected on the Pure Hues dialog.

*It is highly recommended that you do not disable the Use Embedded Profiles When Available option when using TIFF and PSD files.*

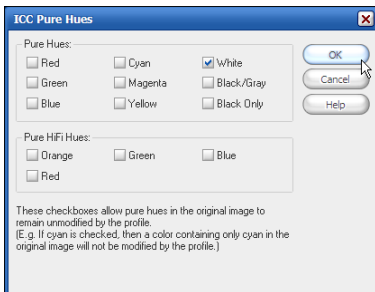


Figure 8—Pure Hues

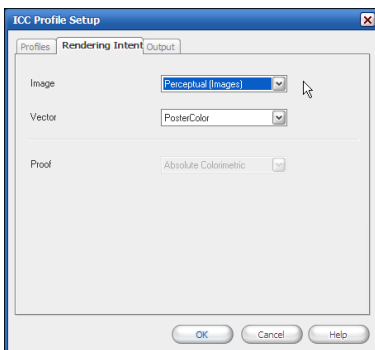


Figure 9—Rendering Intents

## Rendering Intents Tab

The Rendering Intents tab allows you to select the rendering intent you want to use (see Figure 9). If you are working with a PostScript file or a Quick Set, you can choose a rendering intent for both image and vector. For information on rendering intents, refer to the Rendering Intents information in the Color Theory section of this chapter.

The Proof option is disabled unless a proof ICC is selected on the Profiles tab. Proofing allows you to simulate the rendering intent as if you were printing on another printer.

## Output Tab

The Output tab allows you to set how RIP-Queue will output an image (see Figure 10).

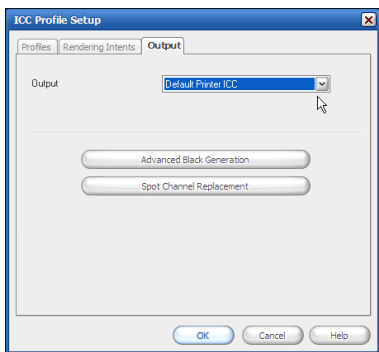


Figure 10—Output

**GCR (Gray Component Replacement)** is the process of removing the graying component equivalent to the least dominant color, and replacing that with black ink in the black separation.

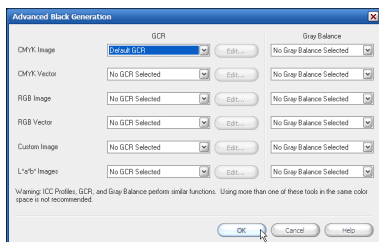


Figure 11—Advanced Black Generation

**Gray Balance** adjusts the levels of C, M, or Y to get a balanced gray. ICC Profiles do this automatically, so only use this option if you are not using an ICC Profile.

- **Output**—use the Output drop-down list to select the output profile you want to use for your image.
- **Advanced Black Generation**—click **Advanced Black Generation** on the Output Tab to access the Advanced Black Generation dialog. This dialog includes both GCR and Gray Balance options. Use the drop-down menus to add GCR tables and Gray Balance profiles for your data type. For GCR options, you can select No GCR Selected, Default GCR, or Custom GCR. For Gray Balance options, you can select No Gray Balance Selected and Default Gray Balance (see Figure 11).
- **Spot Channel Replacement**—this option allows you to print separation files with defined spot colors on any printer space (see Figure 12). For example, the spot colors in a CMYKSS file can be converted to CMYK so the file can be printed correctly on a CMYK printer. This option lets you print files designed for a spot color workflow on printers that don't have spot color channels.

## To use the spot channel replacement tools:

1. From the Output Tab, click **Spot Channel Replacement**.
2. In the Spot Channel Replacement dialog, highlight the spot color you want to define, and click **Edit**. This opens the Edit Spot Channel Replacement dialog.
3. Select the desired color space.
4. When you are finished, click **OK**.

## Saving Custom Color Management Settings

You can save your custom color management settings for future use. While you can only save your settings in a Quick Set, these settings are available for your use in Preflight.

## To save your custom color management settings:

1. Highlight the printer you want to modify, and click **Edit Quick Sets** on the toolbar. This opens the Edit Quick Sets dialog.
2. Highlight the **Quick Set** you want to save your custom color management settings to, and click **Edit**. This will open the Edit Quick Set dialog.
3. In the Color Management area of the Edit Quick Set dialog, click **Change Profiles** and adjust the profile settings as desired. Click **OK** to accept the changes and return to the Edit Quick Set dialog.
4. Once you modify the profiles, click the pull down arrow on the Change Profiles button in the Color Management area of the Edit Quick Set dialog to display a menu. Select **Save As...** to display

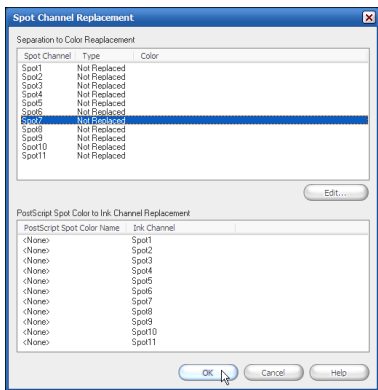


Figure 12—Spot Channel Replacement

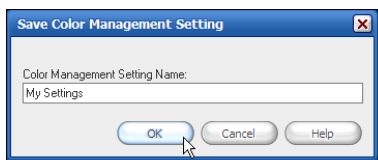


Figure 13—Save Color Management Setting

- the Save Color Management Setting dialog (see Figure 13).
5. Enter a name for the custom color management setting, and click **OK**. Once you have saved a custom color management setting, you can modify or delete these settings.

# Contour Cutting

## Objectives

This chapter will take you through the details of Contour Cutting. By the end of the chapter, you will know how to do the following:

- Prepare a file for Contour Cutting
- Modify a Quick Set for Contour Cutting
- Use Contour Cutting workflows
- Configure CUT-Server

## What is Contour Cutting?

Contour cutting allows you to print an image and then use a specialized device to cut portions of that image. To do this, you prepare a file with a specialized spot color which acts as a cut path. You then print the job using RIP-Queue. Once RIP-Queue completes the print, the cutting device uses the cut path to determine where the image needs to be cut.


## How do I use Contour Cutting?

To use the contour cutting feature, you need to prepare your image file properly. There are three steps to setting up contour cutting.

1. Create a cut path in a vector-based drawing program such as Adobe® Illustrator® or CorelDRAW®.
2. Create a special Quick Set that uses the cutter path prefix. This creates the cut file from the cut paths in the image.
3. Determine your cutting workflow and change your printer's setup options accordingly. You must change the setup options to print the file with a barcode and registration marks.

Depending upon your equipment, you can use one of three cutting workflows:

- **Print and cut on the same device**—this workflow uses RIP-Queue to print and cut.
- **Print on any printer and use the I-Cut® digital die cutter**—this workflow uses RIP-Queue to print and the I-Cut application to cut.



*You must have Contour Cutting enabled on your Hardware Key to use the proofing feature. Contact your sales representative for a Key Update.*

- **Print on any printer and use a separate cutter**—this workflow uses RIP-Queue to print and CUT-Server to cut.

## Preparing a File for Cutting

The first step in the Contour Cut process is to prepare your file for contour cutting. To prepare your file, first you must define the cut path in a vector-based drawing program. The cut path can be as simple or complex as you like.

Once you create the cut path, assign a spot color to it. This spot color (specifically the name, not the color) is the most important part of preparing the file because it allows the cutter software to determine where the cutter should cut the image.

The name you assign to this spot color must have a unique prefix which matches the prefix assigned in RIP-Queue (see the next section, *Modifying a Quick Set for Contour Cutting*, for information on where to set this prefix). In RIP-Queue, the default prefix for the cut path spot color is CutContour. Once you decide on a prefix you can append unique identifiers to the name like CutContour1.

When RIP-Queue processes and prints the file, the path with this specially named spot color will not be printed with the rest of the image. RIP-Queue processes the spot color as a cut path and creates a separate cut script file for your cutting device.

## Defining the Cut Path in Illustrator


The following steps are specific to Adobe Illustrator; however, many drawing programs use similar steps to achieve the same result. The most important part of creating a cut path is that you must create a spot color named CutContour and that you apply the color to the cut path.

### → To define a cut path in Adobe Illustrator:

1. Open your file in Adobe Illustrator.
2. Create a new layer (**Window > Layer > New Layer**) and select that layer. With complex artwork, create a new layer for your cut path elements; with simple artwork this is not always necessary. For help on creating layers, refer to the Adobe Illustrator Help.
3. Draw your cut path using the rectangle/ellipse, pen, or pencil tool. Make sure you close all paths.

## Assign a Spot Color

For RIP-Queue to recognize your cut path, you must assign a unique spot color to the path.



*If you need help creating a spot color in your drawing program, see that program's Help Files.*

## ➔ To assign a spot color to the cut path in Adobe Illustrator:

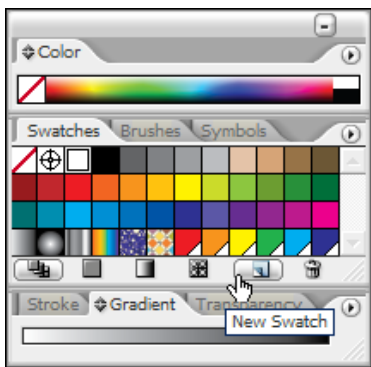


Figure 1—Swatch Palette

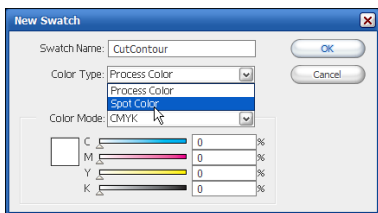


Figure 2—New Swatch

1. Open the **Swatches** palette (see Figure 1). If the Swatches palette is not visible, select **Swatches** from the Window menu.
2. Click the arrow on the upper right corner of the Swatches palette to display a secondary menu and select **New Swatch** to display the New Swatch dialog, or click the **New Swatch** icon on the Swatches toolbar.
3. In the New Swatch dialog, enter **CutContour** as the name for the swatch. Whatever you enter here must match what is entered into RIP-Queue.
4. Select **Spot Color** from the Color Type drop-down menu (see Figure 2).
5. Use the slider bars to create a CMYK color. The color is not important, only what you name the color.
6. Click **OK** to close the New Swatch dialog.
7. Select your **cut paths** and assign the new swatch color to those paths.

## Save Your File

Now that you have defined the cut path and assigned a spot color to the cut path, save your file in .eps format.

## Modifying a Quick Set for Contour Cutting

Before you can print a contour cut file, you must either modify an existing Quick Set or create a new one for your contour cut files. Using a specialized Quick Set for contour cutting allows you to include additional options such as Tile Outline Cut Paths and Trim Overlap.

## ➔ To Create a New Quick Set for Contour Cutting:

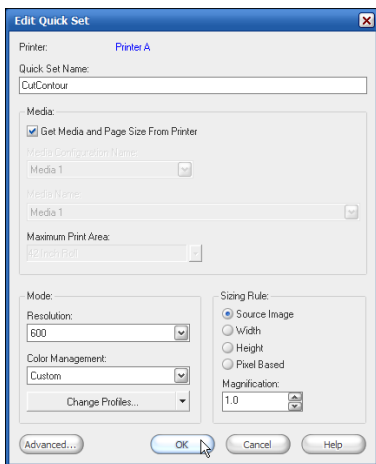


Figure 3—Edit Quick Sets

1. In RIP-Queue, highlight the desired printer, and click **Configure Printer**. This opens the Configure Printer dialog.
2. In the Configure Printer dialog, click **New** on the Quick Set tab. This opens the Edit Quick Set dialog (see Figure 3).
3. Set all appropriate options in the Edit Quick Set dialog. Deselect the first option under the Media section and click the arrow under the Maximum Print Area for more print area options.
4. Click **Advanced** to open the Advanced Options dialog.
5. In the Advanced Options dialog go to the Postscript File tab and enable the **Use Cutter Path Prefix** option (see Figure 4).
6. In the text field in the Use Cutter Path Prefix area, enter the prefix you assigned to the cut path spot color in the vector based graphic application. If you opted to use the default spot color prefix, then leave this field at its default setting.



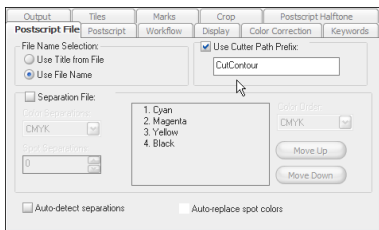


Figure 4—Use Cutter Path Prefix

**!** It is imperative that the text in the **Cutter Path Prefix** field match the prefix you assigned to the cut path spot color, including case and spaces. If this field does not match the prefix you assigned to the cut path spot color, RIP-Queue will not recognize the spot color as a cut path.

7. Set additional cutter options by selecting the **Marks** tab in the **Advanced Options** dialog. This dialog lets you set the following options:

- **Generate Tile Outline Cut Paths**—this option is useful for multiple copies of a photo that doesn't contain an embedded cut line, or for cutting around the edge of a tiled image.
- **Trim Overlap**—this option configures RIP-Queue to place cut lines in the center of the overlap.

## Contour Cutting Workflows

Depending upon the type of equipment you have, your workflow will fall into one of three categories:

- Print and cut on the same device
- Print on any printer and cut on the I-Cut digital die cutter
- Print on any printer and cut on a separate cutter

### Print and Cut on the Same Device

There are many devices which act as both a printer and a cutter.

#### ➔ To print and cut a job on the same device:

1. In RIP-Queue, highlight the desired printer, and click **Change**. This opens the **Change Media and Placement** dialog.
2. In the **Change Media and Placement** dialog, click **Setup**. This opens the **Placement Strategy** dialog.
3. On the **Options** tab select **By Printer** in the **Contour Cutting** drop-down menu (see Figure 5).
4. Click **OK** to close both the **Placement Strategy** dialog and the **Change Media and Placement** dialog.
5. In RIP-Queue, open your file and apply the new **Contour Cutting Quick Set**.

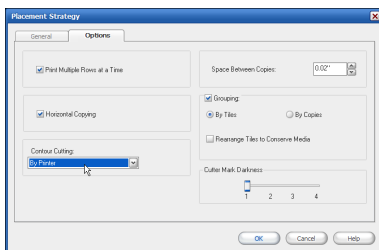


Figure 5—By Printer Option

Once RIP-Queue finishes printing the file, the cutter automatically cuts along the cut path.

### Print on Any Printer and Cut on the I-Cut Digital Die Cutter

In this workflow, you can print on any printer and then use the I-Cut digital die cutter. When you print an image to cut on an I-Cut digital die cutter, the software automatically prints a barcode which the cutter uses to find the corresponding cut file.

## ➔ To print on any printer and cut using the I-Cut digital die cutter:

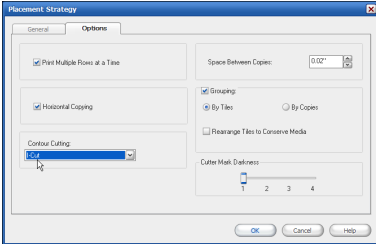


Figure 6—I-Cut Option

1. In RIP-Queue, highlight the desired printer, and click **Change**. This opens the Change Media and Placement dialog.
2. In the Change Media and Placement dialog, click **Setup**. This opens the Placement Strategy dialog.
3. On the Options tab, select **I-Cut** in the Contour Cutting drop-down menu (see Figure 6).
4. Click **OK** to close both the Placement Strategy dialog and the Change Media and Placement dialog.
5. In RIP-Queue, open your file and apply the new Quick Set.
6. Once RIP-Queue finishes printing the file, place the finished print on the cutting table.
7. Launch the I-Cut application and go to **Options > File Location**.
8. Browse your network and select the **shared Hot Folder** (machine name)\cutter\I-Cut).
9. Start the cutting process. The cutter automatically reads the printed barcode and finds the corresponding cut script file.

## Print on Any Printer and Cut on a Separate Cutter

This workflow allows you to print your job on any printer and then cut on any cutting device.

## ➔ To print on any printer and cut on a separate cutter:

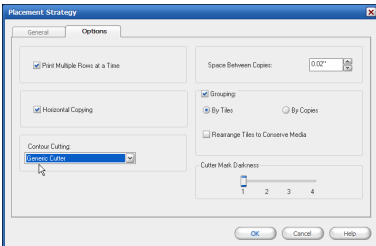


Figure 7—Generic Cutter

1. In RIP-Queue, highlight the desired printer, and click **Change**. This opens the Change Media and Placement dialog.
2. In the Change Media and Placement dialog, click **Setup**. This opens the Placement Strategy dialog.
3. On the General tab, set the top offset to 2 inches. This adds an extra margin the cutter needs when moving the media back and forth during the cut process.
4. On the Options tab select the desired cutter from the Contour Cutting drop-down menu (see Figure 7). If this menu does not list your specific cutter, select **Generic Cutter**.
5. Click **OK** to close both the Placement Strategy dialog and the Change Media and Placement dialog.
6. In RIP-Queue, open your file and apply the new Contour Cutting Quick Set.
7. Once RIP-Queue finishes printing the file, use the **CUT-Server** to cut the print. For more information on using the CUT-Server, see the Using CUT-Server section of this chapter.

For optimal performance, we recommend that you run AutoUpdate for the latest revision of the CUT-Server software.

## Using CUT-Server

### What is CUT-Server?

CUT-Server is an ONYX application that sends cut information to your specific cutter. RIP-Queue creates the cut information for the CUT-Server from the cut path you defined in your graphics application.

### How do I use CUT-Server?

CUT-Server only works with the specific cutters listed in the Placement Strategy dialog in RIP-Queue; however, there is also a Generic Cutter option which works with most cutting devices.

### Configuring CUT-Server

Once you've run the executable to install the new application, launch the CUT-Server by double-clicking the icon on your desktop or selecting **CUT-Server** from the Start menu. The first time you start the application, CUT-Server displays the Add Cutter dialog (see Figure 8).

#### ➔ To add a cutter

1. In the Add Cutter dialog, click **Add Cutter**.
2. Use the Cutter Type drop-down menu to select the desired cutter, then click **OK**.
3. Highlight the device, and click **Configure**.
4. In Port Settings, use the drop-down menu to select the **port type**. Click **Setup** to open the Port Configuration dialog.
5. Use the Port Configuration dialog to setup your specific device.
6. In the Device Settings area, select the **Default** cut setting, and click **Configure**. This opens the Edit Cutter Settings dialog (see Figure 9). These settings are the cutting equivalent to Quick Sets.
7. The Edit Cutter Settings dialog displays the current default settings. The Cutter Settings dialog for a specific cutter displays the setting name, knife pressure, and cut velocity. The Cutter Settings dialog for a generic cutter displays common HP-GL/2 commands to drive a variety of cutters. If you know the specific commands unique for your cutter, you can modify the settings here.
8. Click **OK**.
9. Click **Close**.

If you need to add a new cutter or manage your existing cutter, select **Application Settings** on the tool bar and then the **Cutters** icon. In the Device Management dialog you can Add, Delete, and Configure cutters. The first time you use the generic cutter, you must calibrate your specific cutter to recognize the generic cutter alignment marks on your image.

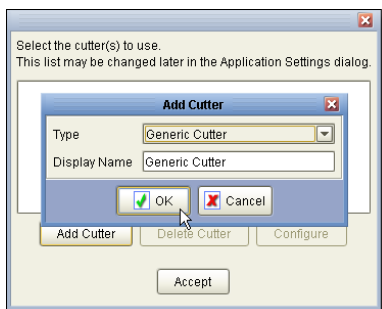


Figure 8—Add Cutter

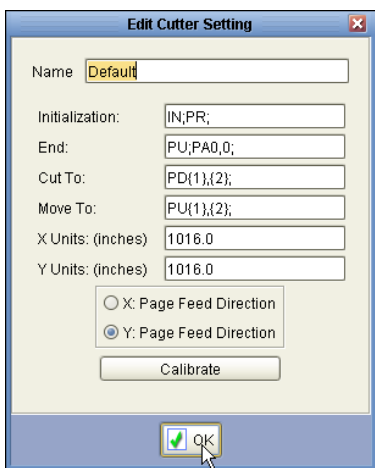


Figure 9—Edit Cutter Settings

## ***Workflow Options for Adding Cut Files***

There are several workflow options for adding cut files to the job list. When you add a cut file using any of these methods, the file will display under the correct device heading. If you add a cut file for a cutter that's not configured, you will be prompted with a message to add that specific cutter. Cut jobs will display in the job list for the intended cutter.

### **Cutter Hot Folder**

This is the most common workflow. Once RIP-Queue processes the image, it creates the cut file and stores it in the Hot Folder for that cutter. CUT-Server recognizes cutter Hot Folders automatically so the job displays in the CUT-Server job list.

### **Opening Cut Files Manually**

To open a cut file manually, click **Open** from the tool bar and browse to the cut file. The recognized file extension for cut files is .xml.

### **Scanning a Barcode**

To add a cut file using a barcode reader, click **Scan a Barcode** from the tool bar and scan the barcode or type in the number of the barcode located on the print.

### **Drag and Drop**

You can drag and drop cut files into CUT-Server. To do this, select the file and drag and drop the file into the application.

### **Custom Hot Folder**

You can configure custom Hot Folders for CUT-Server to recognize a network folder or another known location. To do this, click **Application Settings** on the main toolbar. Click **Jobs > Add** and browse from the Application Settings dialog.

### **Archive**

To open a job from a previously archived file, click **Archive** from the tool bar, highlight the file, and click **Restore**. This moves the job from the Archive into the job list for the intended cutter.

## ***Cutting Workflow***

Once you have installed the cutter, you can add your cut files to the job list.

## ➔ To send a cut job to the cutter:

1. In the CUT-Server window, highlight the desired cut job from the job list to display the cut paths in the preview area.
2. If you want to change the rotation or apply a different cutter setting, use the mini-arrow in the right corner of the cutter head-ing. This expands and contracts the rotation and cutter setting options. Use the drop-down arrows to make your selection (see Figure 10).
3. If you want to inspect your cut paths, use the zoom and pan tools. To reset the preview, use the zoom drop-down, and select **Fit to Window**.
4. Load the print into the cutter. If you've made a change to the rotation, check the preview area to verify the correct orientation.
5. Click **Cut Now**.

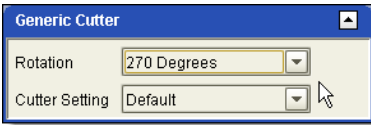


Figure 10—Cutter Settings

## Application Settings

The Application Settings dialog controls the general appearance of the program as well as device and job settings (see Figure 11). You can access the dialog using the Application Settings icon on the tool bar of the main window.

### Changing the Appearance

Appearance is the first dialog displayed in Application Settings (see Figure 11). Use these settings to change the general appearance of the program.

- **Ruler Enabled**—this option displays rulers along the top and left-side of the preview screen.
- **Show text on toolbar buttons**—this option displays text under the tool bar icons.
- **Display warning when deleting cut file**—this options will cause a warning message to be displayed to make sure you want to delte that cut file.
- **Show feed direction on the preview**—this option displays feed direction arrows above the preview screen. If you rotate cut jobs, this indicates the media orientation.
- **Animate Cut Path**—this option displays cut paths as an animated dashed line.
- **Use Operating System buttons and controls**—this option causes the buttons and controls to change to the default options of your operating system.
- **Use Default Font Size**—this option displays the font size for the

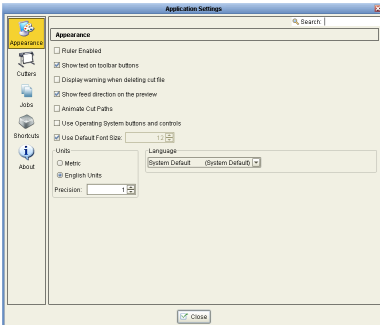


Figure 11—Application Settings

user interface. Deselect this option to change the font size from the default. Font size does not control fonts in the image.

- **Units**—this option displays the units of measurements.
- **Language**—this option displays the current language for the user interface. Use the drop-down menu to select your desired language. You will be prompted to restart the program for the changes to take effect.

## Managing Cutters

Select the Cutters icon on the left-side of the Application Settings dialog to display the cutter window (see Figure 12). Use the Cutter settings to manage your devices.

The Device Management section of the Cutters window displays a list of current devices.

- **Add Cutter**—if you want to add a new cutter, click the **Add** button.
- **Delete Cutter**—if you want to delete a cutter from the list, highlight the device, and click **Delete**.
- **Configure Cutter**—if you want to configure a cutter from the list, highlight the device, and click **Configure**.

The Application Settings section of the Cutters window displays a checkbox for Sort CutPaths and Allow Open CutPaths.

- **Sort CutPaths**—this is checked by default and improves cut accuracy and efficiency by sorting cut paths in a logical manner to reduce media feed adjustment while cutting.
- **Allow Open CutPaths**—this option allows the cutter to leave an open path and not connect back to the beginning point of the cutter.

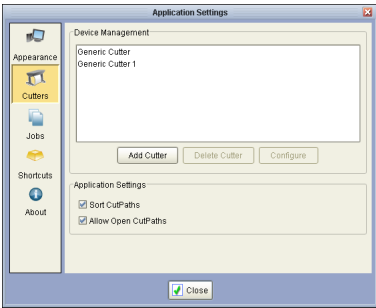


Figure 12—Cutters

## Managing Jobs

Select the Jobs icon on the left-side of the Application Settings dialog to open the Job options (see Figure 13). Use these settings to configure Archive Options and Hot Folders.

The radio button controls how jobs are handled after cutting.

- **Don't do anything with jobs after cutting**—this option leaves the job in the job list until you manually delete the file. You can manually delete files from the job list by highlighting the job, and then either selecting **Delete** from the right-click menu or the **Delete icon** located on the tool bar.

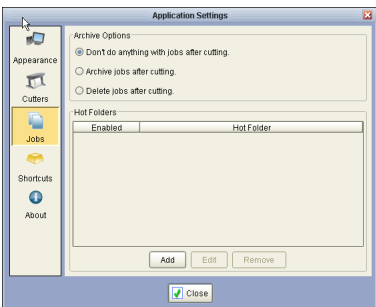


Figure 13—Jobs

- **Archive jobs after cutting**—this automatically moves jobs to the Archive list. You can manually archive jobs from the job list by highlighting the job, and selecting **Archive** from the right-click menu. Restore or delete archived jobs using the Archive icon on the tool bar.

- **Delete jobs after cutting**—this deletes the job from the list after cutting.

CUT-Server automatically recognizes ONYX Hot Folders and displays cut files in the job list for the intended cutter. CUT-Server displays a list of custom Hot Folders from the network or a different known location. Use the checkbox to enable active Hot Folders.

- **Add**—if you want to add a custom Hot Folder, click **Add** and browse to the location. You can add an unlimited number of Hot Folders and any cut jobs in the defined Hot Folders will display in the job list.

- **Edit**—if you want to edit a Hot Folder from the list, highlight the entry, and click **Edit**. This allows you to browse to a new location.

- **Remove**—if you want to remove a Hot Folder from the list, highlight the entry, and click **Remove**.

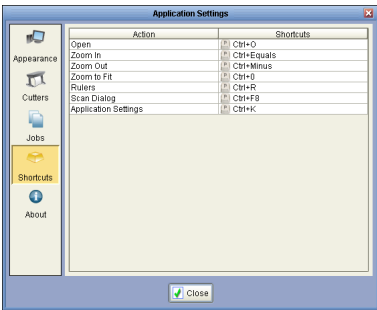


Figure 14—Shortcut Keys

## Viewing Shortcuts

Select the Shortcuts icon on the left-side of the Application Settings dialog to view the Shortcut Key Strokes (see Figure 14). These are only for display and are not editable.

## Viewing About

Select the About icon on the left-side of the Application Settings dialog to view the CUT-Server information.

# Layout Front-end

## Objectives

This chapter will introduce you to Layout Front-end. By the end of this chapter, you will understand the following.

- Purpose of Layout Front-end
- Functionality of Layout Front-end

## What is Layout Front-end?

Layout Front-end gives you immediate, hands-on control over multiple images (see Figure 1). Instead of modifying and printing a single image at a time in multiple applications, Layout allows you to open, modify, organize, and print any number of images from a single application.

Unlike RIP-Queue, Layout does not use Quick Sets, and it is only available before an image is sent to RIP-Queue. This allows you to customize the organization of your images on your media, modify the images using the simplified tools, select your printer and media settings, and then send the nest to RIP-Queue much faster than sending each image to Preflight individually. When you click the Print button, the nest is processed, sent to RIP-Queue, and printed as a single image. Because the image is only processed at printing and not after each modification, your changes appear immediately.

Layout also has several new features such as Overlap Tiles, Multiple Jobs, image bleeds, simplified color corrections and tiling, and variable data.

Because Layout allows you to organize your images how you want them on the media, it is especially useful for flatbed printers. You should use Layout to conserve the most media possible, overlap tiles, perform basic modifications, and use variable data. You should not use Layout for jobs handled with Quick Sets.

## Using Layout Front-end

Layout Front-end was designed to be user friendly and highly intuitive. The following sections describe basic functionality. See the Help Files in your program for more information about specific features.

*If you do not have Layout Front-end, contact your sales representative for a Key Update.*

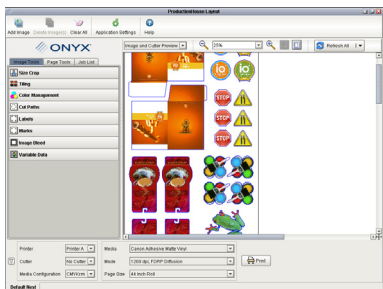


Figure 1—Layout Front-end

*A Job is a group of images organized for printing as a single unit.*

*Overlap Tiles allows you to conserve the most media by making the white boundaries around many images transparent. This allows you to overlap tiles and conserve media.*



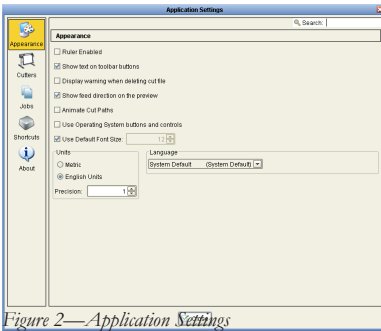


Figure 2—Application Settings

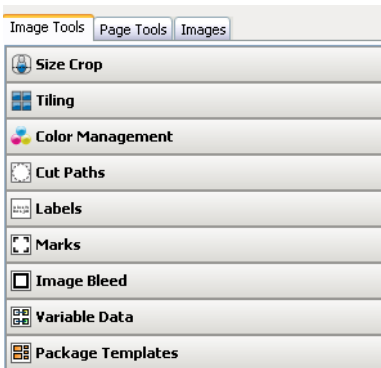


Figure 3—Image Tools Tab

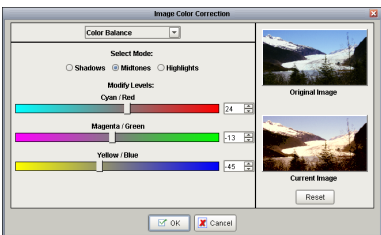


Figure 4—Image Color Correction

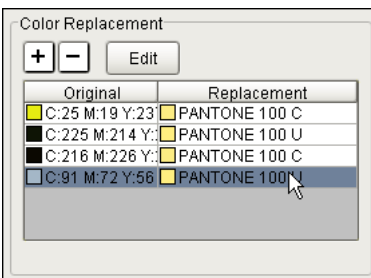


Figure 5—Color Replacement

## Application Settings

You can access the Application Settings (see Figure 2) by clicking the **Application Settings** button on the main toolbar. The Application Settings control the following options and features:

- **Appearance**—this option controls the basic appearance of the program, cut path color, measurement units, and language settings.
- **Quality Options**—this option determines the speed and quality of image processing prior to printing. This option can also affect the quality of the final print.
- **Image Options**—this option allows you to adjust processing and printing options for your image.
- **Cutter**—this option manages your cutters. It lets you add, delete, and configure your cutters.
- **Shortcuts**—this option displays shortcut keys used in Layout Front-end.
- **About**—this option displays information about the application.

## Image Tools Tab

The Image Tools tab (see Figure 3) controls job settings such as size, tiling, and color corrections. To access any feature in the Image Tools tab, click on the tab and then select the appropriate feature. Many of these features are explained in the Preflight chapter. You can also look at the Help Files in your program.

- **Size Crop**—this option sets the width, height, magnification, and orientation of your image. You can also crop your image by clicking the **Crop Image** button.
- **Tiling**—this option sets the tiles and tile overlaps for your image using either automatic or manual settings.
- **Color Management**—this option modifies the color of your image using the Image Color Correction tool. To open the Image Color Correction tool (see Figure 4), highlight your image and click the **Basic Adjustments** button. Click the appropriate color to adjust your image. The preview windows by each color show what the image will look like if you choose to add more of that color. You can modify brightness, contrast, and saturation using the appropriate buttons along the bottom of the screen.
- **Color Replacement**—this option selects and changes one color to another color (see Figure 5).
- **Cut Paths**—this option creates automatic cut paths.

- **Labels**—this option controls what information appears in the label. It also controls the location and appearance of the label.
- **Marks**—this option determines the marks that will be printed with your image.
- **Image Bleed**—this option lets you print a bleed with your image. You can choose from Colored, Duplicate, Wrap, and Mirror. Image bleeds leave your cut image with a clean edge.
- **Variable Data**—this option lets you create a template image where certain portions of the image are modified from image to image. Instead of modifying each image individually, Variable Data allows you to import data from a spreadsheet. Layout Front-end will then automatically insert the appropriate data in the pre-defined fields. This option is often used when printing similar items like price advertisements, business cards, and name plates.
- **Package Templates**—this option allows you to use and create templates that automatically resize, duplicate, and arrange the image on the media. Select an open image and use the drop down menu to select a template or click Template Manager to create a new template. This will apply the template to the open image.

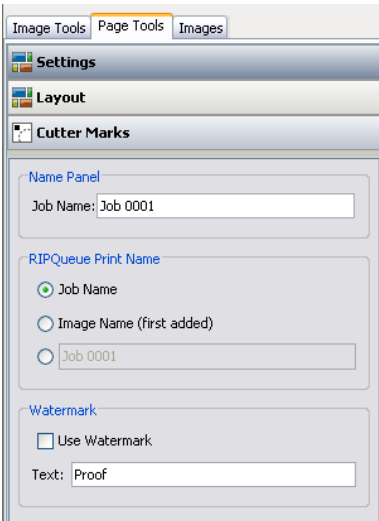


Figure 6—Page Tools Tab

## Page Tools Tab

The Page Tools tab (see Figure 6) controls your initial image settings, layout, and cutter marks. To access any feature in the Page Tools tab, click on the tab and then select the appropriate feature.

- **Settings**—this option lets you name your job and apply a watermark to your image
- **Layout**—this option lets you determine the vertical and horizontal space between each of your images. You can also automatically arrange your images and add offsets. To manually arrange your images, click and drag the image to a location.
- **Cutter Marks**—this option lets you place a barcode on your image for contour cutting and determines the type and size of cutter marks you will use. You can also manually place cutter marks on your image to maximize media usage and efficiency.

## Images Tab

The Images tab (see Figure 7) displays the images from your current job. Each image is listed with any associated tiles. You can select which images or tiles you want to print by selecting or deselecting the Print option next to each image. If you deselect an image, it will still be available in the

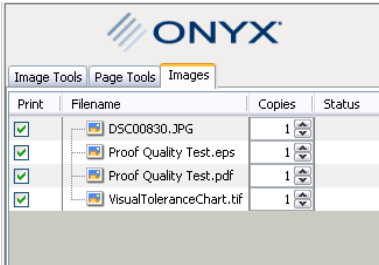


Figure 7—Images Tab

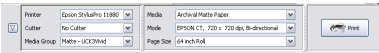


Figure 8—Printer and Media Options

job, but it will not be displayed nor will it print. This allows you to print only specific tiles or, with PostScript files, only specific pages. You can delete an image by highlighting and selecting Delete Image.

## Printer and Media Options

The Printer and Media Options section (see Figure 8) on the bottom of the application window displays your printer and media settings. Use the drop down arrows to select your settings. These settings need to match the settings you have in RIP-Queue.

- **Printer**—this option lets you select the printer you want to use. Printers that are already installed in RIP-Queue are automatically available in Layout Front-end.
- **Cutter**—this option lets you select the cutter you want to use. You can add cutters by selecting **Application Settings > Cutters > Add Cutter**.
- **Media Group**—this option lets you select the media configuration you want to use.
- **Media**—this option lets you select which media you want to use.
- **Mode**—this option sets your mode.
- **Page Size**—this option determines the page size.
- **Print Button**—this option controls printing and cutting. Depending on your settings, it will either let you Print, Cut, or Print and Cut.

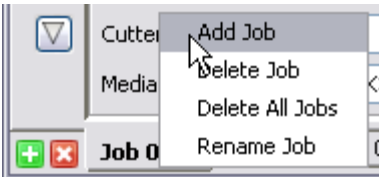


Figure 9—Jobs

## Jobs

Layout organizes your images using Jobs. Jobs are groups of images organized for printing as a single unit. You can create, delete, and rename jobs by right-clicking on the bottom of the application window (see Figure 9). You can also add a job by clicking on the green + or delete a job by selecting that job and clicking on the red X. To switch between jobs, click on the job you want to view.

You can also save a job by clicking **Save Job** in the top left corner of the application. Browse to where you want to save the job and reopen it later by clicking **Open Job**.

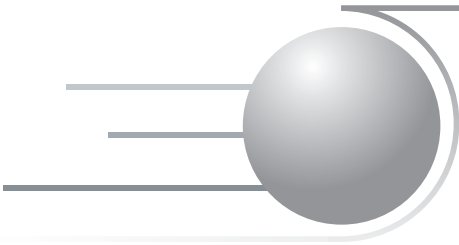


# Note to Windows Vista Users

Make sure to have the following settings applied to be able to adjust settings on Virtual Printers\*.

<b><i>UAC (User Account Control) State</i></b>	<b><i>Administrator Privileges</i></b>	<b><i>Effects on Application and Virtual Printers</i></b>
<b>Off</b>	<b>Yes</b>	Application runs normally. User has complete access to Virtual Printer settings.
<b>Off</b>	<b>No</b>	User must right-click the application icon and select <i>Run as administrator....</i> The application then runs normally and changes to virtual printers can be made. UAC State should not affect access to Virtual Printer settings. If this action does not give you administrative privileges and access to printer settings, log off and log back on with an administrative account or turn on UAC.
<b>On</b>	<b>Yes</b>	Application runs normally. User has complete access to Virtual Printer settings. If you right click and select <i>Run as administrator...</i> a warning opens asking whether you want to cancel or allow this action. Select Allow.
<b>On</b>	<b>No</b>	User must right-click the application icon and select <i>Run as administrator....</i> A dialog opens displaying user accounts with administrative privileges. Select the desired account and type in the password. The application then runs normally and changes to virtual printers can be made. UAC State should not affect access to Virtual Printer settings.

\*Adjustable settings for Virtual Printers include: add/remove/edit page sizes, add/remove/rename media, add/remove/edit keywords, rename printer, activate/deactivate printer, add/remove/rename quicksets, add/remove/rename modes.



# Glossary

## A

### ACRN

Achromatic Color Replacement. See GCR

### Active Printers

A Printer that can be used in RIP-Queue. Use Printer Manager to activate or deactivate printers.

### Additive Color (Additive Primaries)

Colors formed by the combination of red, green, and blue colored light. Video images are produced by this method. This differs from Subtractive Color (used in printing), in that adding more color lightens the image; 100% of all three colors produces white.

### Aliasing

Visual stair-stepping of edges that occurs in images that have been enlarged too much. Sometimes known as jaggies. See also Anti-aliasing.

### ANPA-COLORTM

ANPA-COLORTM Color System. American color matching system, mostly used in newspaper printing.

### Anti-aliasing

Technique for reducing the visual stair-stepping of edges that occurs in an image that has been enlarged too much by averaging or blending the colors next to the edge.

### ASCII (American Standard Code for Information Interchange)

A coding standard that uses 7 or 8 bits to assign numerical values up to 256 for the representation of characters and symbols.

## **AST**

Adobe Separation Table. Color profile providing RGB to CMYK color conversions.

## **B**

### **Banding**

1. Distinct levels of color in an otherwise continuous span of color, caused by printing gradients without sufficient color information.
2. Horizontal striping caused by a printer head malfunction. Usually this is either a misfiring head or improper media feeding.

### **Base Address**

The address at which a device resides in computer memory. The computer must know this address to communicate with the device.

### **Base Folder**

A folder containing the input and work folders for a printer.

### **Bitmap**

A raster image format where each position on a video screen or printout is a picture element (Pixel). Every pixel is addressable, and they are stored and processed at that level. Each pixel is represented by 1 (for black and white images) or more bits (24 bits allows approximately 16 million shades of gray or colors). A bitmap is the two-dimensional matrix of pixel representation.

### **Black Generation**

Addition of K ink to Process Colors when converting from RGB to CMYK. Usually handled through UCR or GCR methodologies.

### **Bounding Box**

An invisible frame drawn by an application around a portion of an image that sets the size. This applies to PostScript only.

### **Brightness**

A measure of the total amount of light emitted, transmitted, or reflected by an object or image; normally measured in Candela.

## C

### Candela

International unit of measure for Luminance, approximately equal to one candlepower. In technical terms, a candela is 1/60th of the luminous intensity per square centimeter of a blackbody radiating at the temperature of solidification of platinum (2,046 K).

### Chrominance

Signal which describes Hue and Saturation, used in measuring the difference between two colors of equal Brightness.

### CIE (Commission Internationale de l'Éclairage)

An international group that developed the most commonly used set of color definition standards. See also ICC.

### CIECAM, CIECAM97

Profile standards proposed by the ICC which take into account viewing conditions such as temperature, light angle, and light type.

### CIELab

A uniform Colorspace proposed by the CIE for use in the measurement of small color differences. See also  $L^*a^*b^*$ .

### CMYK

System for describing colors based on a combination of values for Cyan, Magenta, Yellow, and Black; the ink colors used in four-color process printing. In theory, 100% of Cyan, Magenta, and Yellow create Black. In practice, the addition of Black ink is necessary to print a true Black. See RGB.

### CMYKOG

System for describing color based on a combination of values for Cyan, Magenta, Yellow, Black, Orange, and Green. It is an expansion of the CMYK color model that provides a larger color gamut.

### CMYKRGB

System for describing colors based on a combination of values for Cyan, Magenta, Yellow, Black, Red, Green, and Blue. It is an expansion of the CMYK color model that provides a larger color gamut.



## **Color**

The attribute of visual experience that can be described using the dimensions of Hue, Saturation, and Brightness.

## **Color Gamut**

The range of color that can be created on an output device.

## **Color/Gray Levels**

A color correction tool that allows modification of contrast, brightness, and saturation (Color Levels), as well as the highlights, mid-tones, and shadow levels (Gray Levels).

## **Color Layer**

A layer of a separated image composed of a single color.

## **Color Management System (CMS)**

A System which ensures color uniformity across input and output devices so that the final printed results match the originals. The characteristics or profiles of devices are normally established by reference to standard color targets.

## **Color Rendering Dictionary (CRD)**

A feature of PostScript Level 2 and PostScript Level 3 that specifies output device color capabilities using CIE color notation. Contained in a PostScript RIP, a CRD converts CIE Yxy information embedded in a PostScript file to CMYK information for output.

## **Color Rendering Intent**

A method of mapping color values so colors can be reproduced on different devices even if the devices have a different gamut. As part of this process, it determines how in-gamut and out-of-gamut colors are mapped. See also Rendering Intent.

## **Color Separation**

The process of splitting full-color images into their CMYK components. Color separation can also refer to one or all four of the separate pieces of film or data files from which a four-color version is to be printed. Each separation is a distinct Halftone image.

## **Color Space**

The set of referents used to describe color. The color spaces displayed in RIP-Queue are CMYK, RGB, and HSV. L\*a\*b\* manipulations are also possible in Color Correction.

## **Color Space Array (CSA)**

Color space description that specifies source color characteristics. (These are usually embedded in PostScript Level 2 and PostScript Level 3 EPS files.) A CSA is based on the monitor settings of the application or is specified by the printer driver.

## **Color Temperature**

A measurement of color value in degrees Kelvin. The higher the temperature the closer it moves to white. Typical daylight ranges from 5500°K to 6500°K.

## **Color Wheel**

An image or chart that displays the entire color spectrum at one time. See wheel.tif in the RIP-Queue Samples directory.

## **Colorimeter**

An instrument that measures and quantifies color in a way that resembles human vision. The measurements are usually in the form of coordinates in a CIE color space.

## **Continuous Tone**

1. Images that contain an apparently infinite range of shade and color smoothly blended to create a true copy of the source image.
2. Printing method where dots of equal size are placed in a variable-spaced pattern causing the transitions between colors to appear more natural.

## **Contone**

A RIP-Queue dot pattern that produces continuous tone data (such as RGB TIFF output) as opposed to half-tone data.

## **Contrast**

The difference in tone between the darker and lighter parts of an image.

## **Crop Box**

Defines the area of an image that is to be included in the final output. Anything outside of the crop box is excluded.

## **Cropping**

Cutting or manipulating an image to eliminate unwanted detail along the top, bottom, or sides of an image. Cropped images in RIP-Queue are square or rectangular in shape.

# **D**

## **DCS (Desktop Color Separations)**

A version of the standard EPS format; this lets you save color separations of CMYK or multi-channel files. Use the DCS 2.0 format to export images containing spot channels and single alpha channels from Adobe Photoshop.

## **Densitometer**

A photoelectric instrument that measures the density of printed inks or dyes. A densitometer works in two modes: Integral mode measures density on a logarithmic scale from 0 to about 4; Dot-percent mode measures density on a linear scale from 0 to 100. RIP-Queue uses integral mode.

## **Density**

Degree of opacity of coverage by an ink or toner. Usually measured as a percentage, with 0% equal to no ink, and 100% equal to full coverage.

## **Density Linearization**

A procedure to normalize a device behavior to obtain a linear input to output response for opacity.

## **Density Range**

The measurable difference between the brightest highlight (white) and the darkest value (black) that a device can create or register. The greater the dynamic range, the more lifelike the image.

## **Device Independent Color Space**

A color space that is not dependant on any particular physical device. See CIELab.

## **Dithering**

Process of averaging primary colors to approximate other colors.

## **DLL (Dynamic Linked Library)**

A file containing a set of functions/routines called by a program to perform a task.

## **DMA (Direct Memory Access)**

This allows high speed transfer of data between a peripheral device (such as an LPT port) and a computer's memory without using the computer's processor. DMA channels can work simultaneously independent of the computer's processor.

## **Dot**

A single element in the halftone printing process. In traditional halftone generation, dots vary in size to control the intensity of the printed color. In digital printing, the dot size is fixed by the print mechanism.

## **Dot Gain, Dot Bloom**

Process whereby the ink or toner spreads (blooms) larger than the initial size of the dot due to either capillary action or the ink physically running over the edges of the dot (over inking). Dot gain can be modified by adjusting the physical environment (humidity or temperature) of the printer, or by reducing the saturation level of the inks. See GCR, UCR.

## **DPI (Dots Per Inch)**

Screen or printer resolution. A single value (for example 1200 dpi) means dots per linear inch both vertically and horizontally; two values (for example 600 x 1200 dpi) indicates horizontal and vertical resolutions, respectively. A dpi value shown as 600@1200 dpi means that the image is processed at 600, but is printed at 1200. See also Dot, Virtual Pixel.

## **Drop-Down Menu**

A user interface element that allows a selection from a menu accessed by clicking a down arrow.

## **Dye Sublimation (Dye Sub)**

A printing process using small heating elements to evaporate pigments from a carrier film depositing them smoothly onto a media.

## **Dynamic Range**

The measurable difference between the brightest highlight (white) and the darkest value (black) that a device can create or register. The greater the dynamic range, the more lifelike the image.

# **E**

## **ECP (Enhanced Capability Port)**

A parallel port (LPT) interface which uses the following characteristics:

1. Uses RLE (Run-Length Encoded) data compression for input and output.
2. Provides for I/O buffers at either end.
3. Uses DMA for handling actual data transfer.
4. Allows ECP devices to address multiple channel across the same physical interface. This supports multi-function devices, such as combination scanner/modem/fax/printer devices.

## **ECW**

A raster file format that uses high compression.

## **Effective Resolution**

Resolution of Raster Format image independent of the printer resolution. Effective resolution is determined by dividing the nominal resolution of the image by the pixel duplication ratio. For example: a 2048x3072 pixel image has an effective resolution of 300 dpi at 10x7 inches, 200 dpi at 15x10 inches, 150 dpi at 20x14 inches and 72 dpi at 42x28 inches.

## **Embedded Profiles**

Profiles that are contained in a raster file. TIFF, PSD, and JPG files support embedded profiles.

## **Encapsulated PostScript (EPS)**

A PostScript (vector) file format that can include various options such as the specified PostScript level, embedded fonts, and a preview image. EPS files are printer-independent. See also PS, PostScript.

## **Enhanced-Gamut Color**

Another name for HiFi (CMYKOG) color.

## **EPP Port (Enhanced Parallel Port)**

A parallel port specification jointly introduced by Intel, Xircom, and Zenith Data Systems.

## **Error Diffusion**

Screening technology used in digital printers where fixed-size dots are placed based on image details and tone values to enhance detail. See also FDRP Diffusion.

# **F**

## **FDRP Diffusion (Fixed Dot Random Placement Diffusion)**

Patented error-diffusion process created by ONYX Graphics, Inc. for use in large-format printing.

## **FDRP Line (Fixed Dot Random Placement Diffusion—Line variant)**

Modified version of the FDRP Diffusion Process created by ONYX Graphics, Inc.

## **FDRP Plus**

A hybrid of the Stochastic and FDRP Diffusion dot patterns.

## **Flatness**

The vector calculation of the maximum distance of any points of the approximation from the corresponding point on the true curve, measured in output device pixels.

## **FOCOLTONE Color**

FOCOLTONE® Color System. English color matching system.

## **Fotoba Cutter Marks**

Proprietary marks that are printed around images to allow the images to be cut out automatically.

## **Four-color Process Printing**

The basic method for recreating a broad spectrum of colors on a printing press or computer printer, using only Yellow, Magenta, Cyan, and Black inks or dyes. See also Process Color Printing.

# **G**

## **Gamma**

Contrast level in photographic images. Mathematically, this is the logarithmic relationship between input and output. A perfect mirror has a gamma of 1.0 (1:1), while color transparency film has a gamma of approximately 2.0 (1:10). See also Tonal Range.

## **Gamut**

The range of colors that can be created by a particular output device. Colors are referred to as in-gamut if they can be reproduced on a particular device and out-of-gamut if they cannot.

## **GCR (Gray Component Replacement)**

In Four-color Process Printing, black is made up of a combination of the three primary colors. GCR determines how much black to print with black ink, and how much black to print with the remaining three colors. See also UCR. Also known as Skeleton Black Generation when used in converting RGB files to CMYK.

## **GIF (Graphic Interchange Format)**

A standard for small raster image files. GIF files support transparencies and different color palettes.

## **Grayscale**

1. The range of tones from black to white.
2. An image consisting of only levels of black and white.

---

# H

## Halftone

1. An image in which continuous tones are simulated by regular patterns (screens) of small dots.
2. A process for creating images. Screening can be done at different angles and the line density varies over a wide range (50 – 500 lines per inch). Printing a black & white photograph on a press or printer requires the creation of a single halftone. Four color process printing requires a separate halftone for each of the process colors. See also Continuous Tone, Screen Angle.

## Hardware Key

The physical plug that is required to use RIP-Queue.

## Hexachrome™

Pantone® trademark name for a printing system that uses specific values of CMYK plus Orange and Green. See also CMYKOG(V).

## HiFi Color

Printing system using additional levels of dilute toner (usually cyan and magenta) in combination with CMYK to produce a wider gamut of colors and more natural-looking images. May also refer to a printing system using additional primary process colors.

## Histogram

A type of graph that shows frequency data in two-dimensional rectangles. The width of each rectangle represents the class interval (in RIP-Queue, this is the section of the spectrum), while the height represents the number of occurrences (in RIP-Queue, this is the number of pixels with that color value).

## Hot Folder

A folder found in the Input folder that can be used to automatically process images by copying images into that folder. Each Hot Folder represents a specific Quick Set.

## HSV

A color space that defines colors by Hue, Saturation, and Value (Brightness).



## **Hue**

1. A tint or color specified by an angle on the HSV Color Wheel. Going counter-clockwise around the wheel, hues shift from red to yellow to green to cyan to blue to magenta and finally back to red.
2. The attribute of a color that permits it to be identified as a specific color. Hue combined with Saturation and Value fully defines a color.

## **I**

### **ICC Profile**

An international standard for describing color transformations. Also known as ICM (.icm). See also Color Profile and Profile Library.

### **ICC (International Color Consortium)**

An organization that developed the standard for color management.

### **ICR (Integrated Color Removal)**

See GCR.

### **IEEE-1284**

The preferred standard for LPT ports, cables, and communication.

### **ICM Profile**

See ICC Profile.

### **Ikon Card**

A PCI add-on card that is required to print to some printers. Use the VPT printer port to print using the Ikon Card.

### **Ink Limiting**

The process of restricting the total amount of ink applied to a media by adjusting the maximum percentage of the color values in a processed image.

### **Ink/Toner Model**

A set of parameters for a specific ink or toner. This is used in calibration to compensate for imperfectly balanced inks and to assist in generating similar output from dissimilar inks.

## **Input Folder**

A folder that is constantly monitored for image files to allow automatic processing and printing. See Hot Folder.

## **Input Profile**

1. A profile that describes the color characteristics of a device such as a scanner that is used to create images.
2. A profile that identifies the output device being simulated for ICC Color Matching (that is, modifying the output image so that a print on one device appears as if it were printed on a different device).

## **Intensity**

Degree of saturation or reflection of visible light.

## **Interpolation**

Process of increasing the apparent resolution of a raster image by using either a bi-cubic or sequential algorithm to create new dots in between the existing dots.

## **Intranet**

A local computer network connecting nearby computer systems and printers, such as in an office.

# **J**

## **Job**

An image coupled with RIP-Queue settings.

## **JPEG (Joint Photographic Experts Group)**

A raster file format as well as a standard for compression of image files in general. See also Raster Format.

# **K**

## **Key Update**

A file that adds permissions to your Hardware Key. See Hardware Key.

# L

## **L\*a\*b\* (L\*a\*b\* Color)**

A uniform color space proposed by the CIE for use in the measurement of small color differences. The lightness ( $L^*$ ) and the color parameters ( $a^*$  and  $b^*$ ) accurately define a color. See also CIELab.

## **LAN (Local Area Network)**

A computer network designed to connect nearby computers and printers, such as in an office. A LAN can be connected to another LAN, or the Internet.

## **Landscape Orientation**

A page oriented so that it is wider than it is tall.

## **Leading Edge Effect (LEE)**

This is a print error where an empty strip appears following a solid color or no color area. Use a Stochastic dot pattern to fix this.

## **Line Screen**

Organization of elements in a printing screen, used to define the density of the screen. For example, a 140-line screen is a pattern that has 140 Halftone Dots per linear inch. The greater the number, the more accurately details are printed. See also Screen Ruling.

## **Linearization**

The process of normalizing a device so that it produces a linear (1:1) input to output response.

## **LPI (Lines Per Inch)**

This refers to the number of Halftone Dots that will be printed per linear inch in an image, based on the Screen used.

## **Luminance**

The lightness or Brightness of an image.

## **LZW TM**

Standard form of loss less file compression for video and graphic images (such as RIFF). From Lempel-Ziv-Welch, the inventors.

## **M**

### **Media**

A paper or other substrate that the printer creates images on.

### **Media Model**

A media model defines the targets used for calibrating for different classes of inks. See also Ink/Toner Model.

### **Metamerism**

Condition where two colors match each other under one light source, but not another.

### **Moire (Interference Pattern)**

A pattern of visible waves caused by overprinting halftones whose screen angles are aligned improperly. This is usually the result of scanning and screening a previously screened halftone image. The pattern is confusing and destroys detail, creating uneven tonal values. See also Screen Angle.

### **Monitor Profile**

A profile that describes the color characteristics of a display device.

### **Monochrome**

An image that is composed only of levels of a single color and white. See also Grayscale.

## **N**

### **Nibs**

A part of the physical print head on the printer that produces the ink dots.

## **O**

### **Opacity**

Resistance to the passage of light.

## **Ordered Dithering**

A dot pattern that attempts to evenly distribute the expected range of color levels using a matrix acting as a screen. This is done by defining the dot placement in a recursive fashion. This results in a screen which has a grid appearance to it. In RIP-Queue, ordered dithering has been extended to place each color at angles to other colors. This produces a rosette pattern similar to the halftoning that appears in newspapers, since the rosettes are small. See also Half-tone, Screen, Screen Angle.

## **Origin**

The point where the measurement units for both x and y axes are zero. In RIP-Queue the origin is always the top-left corner of the selection box; in PostScript it is always the lower-left corner.

## **Output Profile**

A profile that describes the color characteristics of an output device, such as a printer or film recorder.

## **P**

### **Pantone®**

A system for identifying colors based on CMYK values as they appear on the printed page.

### **Patch**

Single color sample contained in a swatch. Used as part of profile generation.

### **PCX**

A standard for raster image files developed by ZSoft for PCPaintbrush.

## **PDF (Portable Document Format)**

Modified PostScript file format used by the Acrobat document exchange system. Fonts should be embedded within the PDF document in order for RIP-Queue to use them.

## **PhotoCD**

Raster image format developed by Kodak. There are two types, each containing multiple resolutions. Standard PhotoCD images are 2048x3072 pixels, and require 18MB of storage. Professional PhotoCD images are 4096x6144 pixels and require 80MB of storage.

## **Photospectrometer**

Device for measuring color. Also known as Spectrophotometer.

## **Pixel (PEL)**

Picture element. A single point in a raster format image.

## **Pixel Duplication Ratio**

Ratio of input pixels to output dots. (Scan resolution divided by output resolution).

## **Pixelization**

Effect of over-enlarging a raster image so that the individual pixels in the source image become visible. See also Aliasing.

## **Plate**

Layer of a separated image that is composed of a single color. See also Color Layer and Separation.

## **Portrait Orientation**

A page oriented so that it is taller than it is wide. See also Landscape Orientation and Transverse Orientation.

## **Posterization**

The effect produced when an image or part of an image is displayed or printed with too few colors (or shades of gray) to accurately reproduce color differences.

## **PostScript (PS)**

A vector-based page description language, which stores text and graphics as lines and arcs that can be filled with a variety of different backgrounds. PostScript files are printer dependent, do not need a showpage command, and have embedded fonts. See also Encapsulated PostScript, PDF.

## **PostScript Screen**

A specific setting for a color channel that determines the frequency, angle, and function when using the Halftone dot pattern.

## **PPD (Printer Profile Description)**

A file listing the limits and capabilities of a printer in a form that printer drivers and other software programs can read.

## **Preflight**

An application used to view and modify RIP-Queue jobs.

## **Primary Colors**

Colors that can be combined in various proportions to produce another color. In the light (additive color) spectrum, primary colors are red, green, and blue. In inks, paints, and other pigments (subtractive color), the primary colors are generally cyan (red), yellow, and magenta (blue).

## **Printer Pool**

One or more similar printers that share a common printer library, Hot Folders, and Quick Sets.

## **PrnInst (Printer Installation File)**

A proprietary file format used to install a RIP-Queue printer. A PRNINST file contains the dlls, profile library information (media, calibrations, and profiles), and other support files that are necessary to use a given printer.

## **Process Colors**

The four ink colors used in four-color process printing: Cyan, Magenta, Yellow, and Black.

## **Profile**

1. A method of defining and compensating for the color shifts in an image as it is shown on a monitor and printed on a media.
2. A specific Printer/Ink/Media combination in RIP-Queue.

## **Profile Library (Printer Profile Library)**

Collection of color profiles specific to a printer type.

## **PSD (Photoshop Document)**

The native file format of Adobe Photoshop. They are raster files that support L\*a\*b\* color, spot channels, and embedded profiles.

## **Pure Hues**

Color created by applying 100% each of one or more inks in an image.

## **Q**

### **Queue**

An organized list of jobs that are printed on a first-in first-out (FIFO) basis.

### **Quick Set**

A group of settings that is applied to images to create jobs in an efficient manner.

## **R**

### **Raster**

File format in which pixels are placed in a grid. (That is, pixels are located by exact addresses, rather than by their relation to other pixels.)

### **Raster Format**

Graphic file format in which images are described as a matrix of dots. See also Raster.

### **Rasterizing**

Conversion of a file to Raster format.

### **Reflective Copy**

A piece of artwork that is viewed by reflected light (for example, drawings or photographs). Also called reflection copy and reflective art. See also, Transparency.



## **Registration**

The precise alignment of film or plates for printing. Register marks, usually placed outside the trim area, assist the printer and finisher in achieving accurate registration in multiple color jobs.

## **Registration Marks**

Cross-hair marks placed at each corner of the image to help ensure proper registration. Registration Marks are also used to aid in trimming the image.

## **Rendering Intent**

A method of compressing out-of-gamut color values so they can be reproduced.

## **Resolution**

The number of dots available to represent graphic detail in a given area. On a computer screen, resolution is usually measured in pixels per inch (ppi). On a printer, the resolution is measured in dots per inch, or dpi. Halftone resolution measurements are in lines per inch, or LPI. See also Screen Ruling.

## **RGB**

System for describing colors based on a combination of values for Red, Green, and Blue—the additive primaries. RGB is the basic additive color model used for color video display. Mixing various percentages of red, green, and blue light can recreate most of the spectrum; combining 100% of all three creates white light. See CMYK, Additive Color.

## **RIP (Raster Image Processing)**

Method for converting a vector-based image into a raster based (pixel-by-pixel grid) image.

## **Ripping**

Process of turning files into printer or bitmap files. See Rasterizing.

## **RLE (Run Length Encoding)**

A method of loss less file compression.

# S

## Saturation

Term used to describe the strength, purity, or vividness of a hue. Saturation indicates how much color is present. When there is no saturation, there is no color.

## Screen Angle

The orientation of a halftone screen as measured from the horizontal axis. Forty-five degrees is commonly used for Black and White, 105° for Cyan, 75° for Magenta, and 90° for Yellow.

## Screen Ruling

Measure of the fineness of a Halftone screen—the higher the number, the finer the screen. See also Lines Per Inch.

## Screen (Screen Pattern, Screening)

1. A way of filling areas in graphic design, created with various densities of black-and-white (or color-and-white) patterns.
2. The process of breaking up a photograph into dots of black and white for easier printing.
3. A shade of gray or color. Black (solid) is 100% screening and white is 0%. See Halftone, Line Screen.

## Separation

Individual layer of a multi-color image. Each layer contains the amount of each primary color needed to produce a four-color image when layers are superimposed on each other.

## Separation Color Space

PDF's name for a Spot Color. A separation color space always carries an alternate tint transform. The transform can be in RGB or CMYK (or others) and gives the rules for outputting in that space when the named color is unavailable.

## Server

A computer that provides facilities to other computers on a local area network. Examples of servers include file servers, print servers, and mail servers.

## **SID**

A proprietary raster file format developed by LizardTech, Inc. Also known as MrSID. This format uses high compression algorithms.

## **Skeleton Black Generation**

A color separation technique that substitutes Black ink for calculated amounts of Cyan, Magenta, and Yellow. Black gives more depth in the reproduction, corrects a color cast in the shadows, and results in better gray neutrality. See also GCR.

## **Spectrophotometer**

An instrument used to measure the spectral transmittance or reflectance of objects. They provide densitometric and colorimetric data, and can be used to read Linearizations and ICC Profile swatches.

## **Spot Color**

A specific color or type applied to individual graphic items.

## **Spot Color Printing**

A method of color printing using an ink that is premixed to a specific color, such as a corporate logo. These colors are generally premixed according to a color matching system and are printed on top of preexisting color. Sometimes referred to as Fifth-color Printing.

## **Stochastic Sampling**

Dot pattern analysis and generation using locations in the area of a pixel wherein the pixel is perturbed or jittered. This produces an average of the color for an area. Stochastic generation methods are generally much faster than other methods, at some expense in shadow and highlight detail.

## **Strike Mode**

Technology which controls how often and at what point the printer applies additional ink dots to the media.

## **Subtractive Color**

Colors that are formed by the removal of certain wavelengths of light. Colors on a printed page are subtractive (e.g., white light strikes the page and the ink absorbs some wavelengths. This allows only certain colors to be reflected to the eye.)

## **Subtractive Primaries**

Cyan, Magenta, and Yellow, which, along with Black, are the ink colors used in four-color process printing. See also RGB.

## **Swatch**

Standard print image used by RIP-Queue for profile generation. A swatch contains multiple patches.

## **Swath**

A band of ink laid down by the printer head as it moves across the media.

## **SWOP (Specification for Web Offset Publication)**

The most common standard for American printing inks. This is not tied to any individual color matching system or device.

# **T**

## **Targa**

24 or 32-bit raster format originally developed for video production by AT&T EPIC (later Truevision). This format does not support the storage of image data as planes of color information.

## **TCP/IP (Transmission Control Protocol/Internet Protocol)**

A communications protocol developed under contract from the U.S. Department of Defense to connect dissimilar systems. Supports mail (SMTP), file transfer (FTP), remote terminal operation (Telnet), and remote printing. RIP-Queue supports TCP/IP remote printing.

## **TIFF (Tagged Image File Format)**

A standard raster format for graphic files.

## **TIFF-IT (Tagged Image File Format for Image Technology)**

A variant of the TIFF file format developed by the American National Standards Institute, Inc. (ANSI). It is intended to smooth pre-press workflow by making images easier to exchange and transfer.

## **Tile**

Section of a print image. Images can be tiled when they are too large for the media, or to fit mounting and display requirements

## **Tint**

A solid color reduced in shade by screening. Altering the tint alters the hue of a color without affecting the saturation of the color.

## **Tonal Range**

Range of white in an image. An image with a small tonal range will appear very flat, because there will be little difference between the darker and lighter areas of the image. See also Contrast.

## **Tone**

Degree of luminosity or amount of white in color represented by the L axis in the  $L^*a^*b^*$  color space. See also Luminance.

## **TOYO Color**

TOYO 88 Colorfinder™ 1050 System. (Japanese)

## **Transparency**

Any artwork that is viewed by light passing through it, rather than reflecting off it. See Reflective Copy.

## **Transverse Orientation**

Page oriented so that it is wider than it is tall, but the text is rotated 90° so that it remains in the same relation to the page as in a Portrait orientation. See Portrait Orientation, Landscape Orientation.

## **Triggering**

The mechanism by which RIP-Queue determines when jobs can be printed. Manual print triggering is controlled by the Print Now button. Automatic print triggering is controlled by a time-out value or an area percentage value of media usage.

## **TRUMATCH Color**

TRUMATCH Swatching System™. An American color matching system.

## **TWAIN (Technology without An Interesting Name)**

A platform-independent interface for acquiring images from image devices.

## **U**

### **UCR (Under Color Removal)**

The process of reducing the smallest Halftone Dot in areas where yellow, magenta, and cyan all print, together with quantities of the other two colors, sufficient to produce a neutral gray, and replacing that color with black ink. See also GCR.

### **URL (Uniform Resource Locator)**

An address on the Internet or an intranet.

## **V**

### **Value**

Representation how bright (or dark) a color is. As value increases, the amount of black decreases. See also Brightness.

### **Vector Format**

Graphic file format in which an image is described as a set of mathematical relationships. See PostScript.

### **VideoNet**

A proprietary network protocol used to communicate with some printers such as ColorSpan devices.

### **Virtual Pixel**

A dpi value that is processed at a lower resolution than is printed. The virtual pixel value is shown in two parts separated by the @ character, such as 600@1200. 600@1200 means that the image is processed at 600 but is printed at 1200. See also Dot.

### **Virtual Printer**

A Windows printer driver that prints to RIP-Queue. The virtual printer can be shared on a network for other systems (Windows or Macintosh) to use.

## **VPT**

A printer port used when printing via an Ikon card and generally used for Xerox electrostatic printers.

## **W**

### **White/Black Limits**

A color correction tool that modifies the white and black points of an image without changing the values of the midtones.

### **WinKey**

An application that shows the permissions of the Hardware Key. WinKey is also used to print, e-mail, or update the key permissions.

## **Y**

### **YCC**

Kodak's internal format standard for PhotoCD image files. This file format is not currently supported by RIP-Queue. Save these files as PCD files. See PhotoCD.

## **Z**

### **Zipped File**

Any file that is compressed using the algorithms developed by PK-ware. Used for loss less compression of files for storage or transfer.



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