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# Epson 7800 / 9800 ProofReady Plugin

Version 1.0r1

January 2007

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*Epson 7800/9800 ProofReady Plugin*

Version 1.0r1

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# Getting Started

This manual describes the Epson Stylus Pro 7800/9800 printer plugin for the Torrent RIP. The plugin adds new output devices to the Torrent RIP for use in your page setups. Each device provides support for a variety of inking 'regimes' and Torrent ProofReady profiles, which provide expert, "out of the box" color management for printing proofs.

## 1.1 Plugin features

With its advanced 8-color Epson UltraChrome K3™ ink technology, the Epson 7800/9800 printer is capable of delivering prints with amazing color fidelity, gloss-level, and scratch resistance. The plugin has been engineered to support the full range of inks maintained by the printer, including 8-color inks, three-level black inks, and two user-exchangeable black ink modes.

Briefly, the plugin has the following features:

- A selection of Torrent RIP plugin devices for outputting to the Epson Stylus Pro 7800/9800 printer.
- A selection of ProofReady color management profiles, each designed to produce outstanding results on a range of commonly used papers and inks.
- Support for HEDS1 and HEDS2, Global Graphics' advanced screening technology.

## 1.2 System requirements

The following components are needed to install and run the Epson 7800/9800 plugin.

### 1.2.1 Supported platforms

The Epson 7800/9800 plugin has been approved for use on the following platforms:

- Windows 2000/2003/XP
- Mac OS X (10.2.x – 10.4.x)

HighWater does not certify use of the plugin on any platform than those listed above.

## 1.2.2 Hardware requirements

The following *minimum* system requirements are needed to run the Epson 7800/9800 plugin successfully:

### 1.2.2.1 Windows Platforms

- Intel Pentium IV (or equivalent).
- Microsoft Windows 2000, 2003, XP Professional or Home Edition.
- 256 MB of RAM (in addition to basic memory requirements for your RIP).
- 1 GB disk space (additional space may be required for large format or high-resolution output).

### 1.2.2.2 Macintosh Platforms

- PowerPC G4 or Mac Intel.
- Mac OS X v.10.2.x – 10.4.x (Mac OS 9 and earlier is not a supported platform).
- 128 MB of RAM with virtual memory turned on (in addition to basic memory requirements for your RIP).
- 1 GB disk space (additional space may be required for large format or high-resolution output).

### 1.2.2.3 All Platforms

- For large format or high-resolution jobs, in the Configure RIP dialog box, increase the **Printer buffer** setting to at least 20000 KB and **Disk space left for system** to 20 MB.
- Connection interface, either:
  - IEEE 1394 (FireWire) interface and cable. (Windows only, via Spooler)
  - USB 2.0 interface and cable (also USB 1.1 compatible). (Mac & Windows)
  - Optional Ethernet Interface and network connection. (Mac & Windows)

For a precise method of determining the amount of memory required by the RIP when processing jobs for the Epson 7800/9800, see Appendix C, “Memory Requirements”.

## 1.2.3 Supported RIPs

The Epson 7800/9800 plugin has been approved for use with the following RIPs:

- Torrent RIP v7.x.

## 1.2.4 Optional items

Depending on how you want to process your print jobs, the following optional items may also be needed:

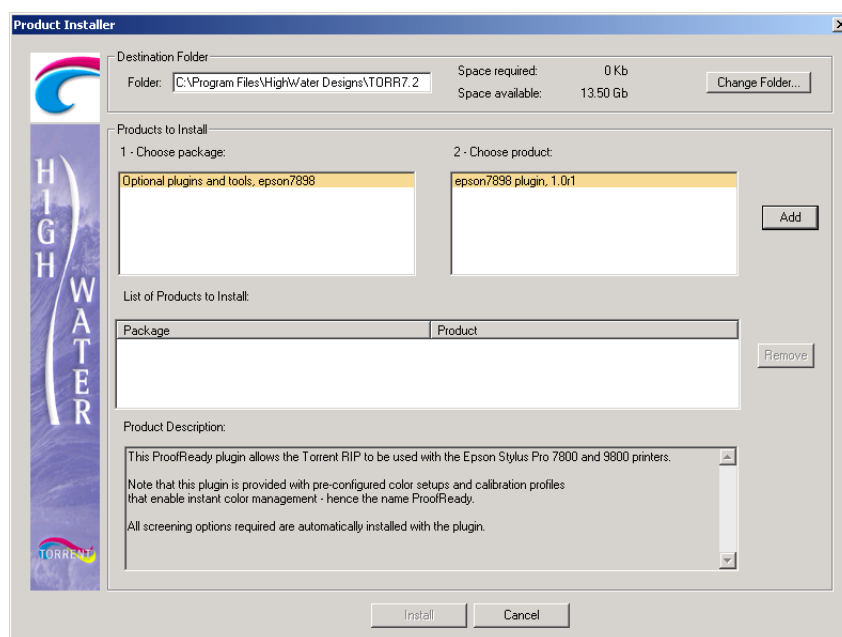
- Torrent ColorPro—required for Torrent RIP ProofReady colour management technology.
- HEDS1 and/or HEDS2—required for Harlequin Error Diffusion Screening (HEDS) technology.

- HDS or HDS Light screens—required for Harlequin Dispersed Screening (HDS) technology.

Your Torrent RIP supplier will be able to provide you with necessary serial numbers to enable these features in the RIP.

## 1.3 Installing the plugin

The plugin is installed by running the supplied setup program, which loads the Product Installer (Figure 1.1). As well as the printer plugin, the installer automatically adds any necessary screening plugins to your RIP such as HEDS1 and HEDS2. Simply installing the Epson 7800/9800 plugin to your Torrent RIP copies everything you will need.



**Figure 1.1** The Product Installer application

The procedure for installing the Epson 7800/9800 plugin is as follows:

1. Close the Torrent RIP if it is running.
2. Open the media where the Epson 7800/9800 plugin is located and double-click **install.exe**, to start the Product Installer application (Figure 1.1).
3. In **Destination Folder**, enter the path to your Torrent RIP installation folder (use the **Change Folder...** button to locate the correct directory. By default, this is at **C:\Program Files\HighWater Designs\Torr7.2**).
4. Choose **Optional plugins** from the packages list.
5. Choose the **Epson7898 plugin, 1.0r1** product and click **Add** to add it to the installation list. (Selecting this option also installs Extra HDS, HEDS1 and HEDS2 screens.)
6. Click **Install** to install the products and then click **OK** when finished.

## 1.4 Enabling the printer plugin

The Epson 7800/9800 plugin needs to be enabled in the Torrent RIP before it can be used, along with related plugins for screening and color management.

1. Start the Torrent RIP. Choose **Torrent > Configure RIP** (or **CTRL+R**) to open the Configure RIP dialog. Click **Extras** to open the Configure RIP Extras dialog (Figure 1.2).

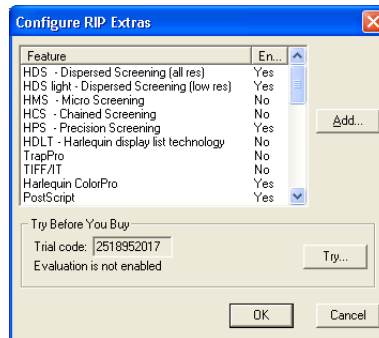


Figure 1.2 The Configure RIP Extras dialog

2. From the list of features that are available, enable the following features by entering the serial number provided by your Torrent RIP supplier:
  - **Epson, Stylus Pro 7800 VSD OR Epson, Stylus Pro 9800 VSD**
  - **Torrent ColorPro** (this plugin is optional and is required if using ProofReady profiles)
  - **HEDS1, HEDS1**
  - **HEDS2, HEDS2**
  - **HDS OR HDS Light**

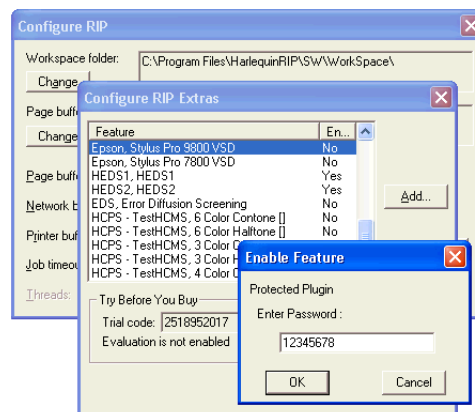


Figure 1.3 Enabling a plugin with a password

3. Click **OK** to close the Configure RIP Extras dialog, and then click **OK** to close the Configure RIP dialog.

The features will now be enabled in the RIP and may be used in your page setups to process jobs, as described in Section 4, “Creating Page Setups”.

## 1.5 Allocating additional memory to the RIP

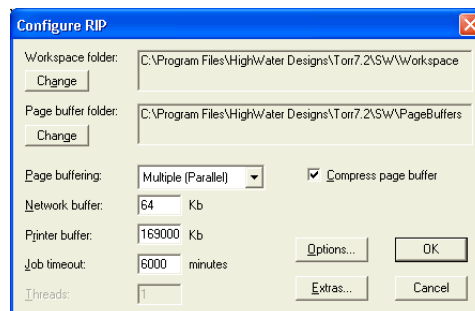
To process jobs with the Epson 7800/9800 plugin you may need to allocate additional memory to the RIP printer buffer. The precise amount of memory required depends on the nature of the job that requires processing, such that large, high quality jobs will require more memory than small, low quality jobs.

The basic memory requirements for the RIP is to provide sufficient memory to prevent the operating system from page buffering, which has the undesired effect of slowing the RIP down to a crawl. At the other end of the scale, the more memory you can make available to the RIP the better it will perform. Figures of 500 MB and above may be needed to process some large jobs, especially if options such as in-RIP trapping and screening are being used. In general, the RIP performs better the more memory it has available to use.

To set the printer buffer memory allocation, open the Configure RIP dialog (Figure 1.4) and enter a value into the **Printer Buffer** box. Suggested settings are:

- Low/medium resolution prints on standard size pages: *20000 KB*
- High resolution prints on standard size pages: *40000 KB*
- Low/medium resolution prints on large size pages: *40000 KB*
- High resolution prints on large size pages: *60000+ KB*

Any other RIP memory settings should be configured according to the recommendations given in the *Torrent User's Guide*, since these vary according to the RIP release you are running.



**Figure 1.4** Setting the printer buffer size in the RIP

See also Appendix C, “Memory Requirements” for more information on the specific memory requirements of the plugin.

## 1.6 Related documentation

For more details about the printer you are using, see the manufacturer’s documentation supplied with the printer or the relevant product support section of the manufacturer’s web site.

For more information about the RIP, see the *Torrent User's Guide*. For more information about Torrent ColorPro, see the *Torrent ColorPro User's Guide*.



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# Output Devices

The Epson 7800/9800 plugin adds several new output devices to the RIP. Select the device you wish to use in your page setup, and the RIP will process jobs for the Epson 7800/9800 printer using the correct device settings for ink, media type and output quality.

## 2.1 Epson 7800/9800 devices

Table 2.1 lists the Torrent RIP output devices that are available in the page setup area of the RIP after installing the Epson 7800/9800 plugin.

| Device                | Usage   |
|-----------------------|---|
| SP7800/9800 Roll      | Produces output for roll-fed paper using fixed sized ink dots, which can be small, medium or large size.  |
| SP7800/9800 Sheet     | Produces output for sheet-fed paper using fixed sized ink dots, which can be small, medium or large size. |
| SP7800/9800 VSD Roll  | Produces output for roll-fed paper using varying sized ink dots.  |
| SP7800/9800 VSD Sheet | Produces output for sheet-fed paper using varying sized ink dots.   |

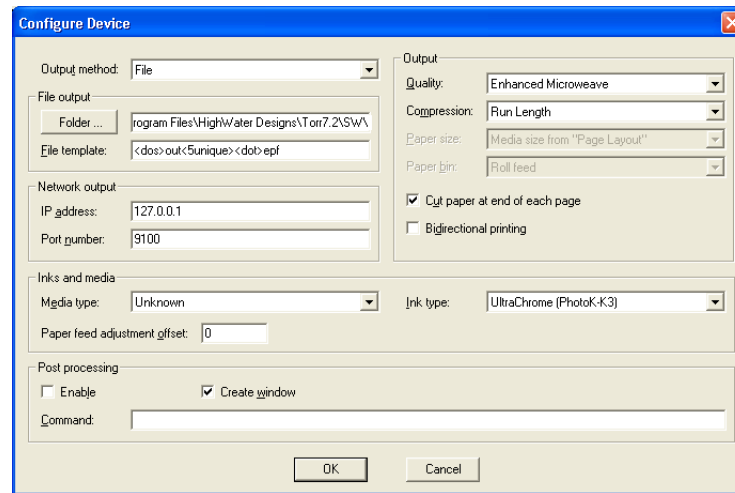
**Table 2.1** Epson 7800/9800 devices

Each device also has a selection of Torrent ProofReady profiles for instant color management. See Section 5 on page 21 for a list of ProofReady profiles that are available.

## 2.2 Setting device options

The devices installed by the Epson 7800/9800 printer plugin can be configured to suit your particular job processing requirements. For instance, you can change the media and ink types to suit those installed in your printer, change the output quality to increase throughput or print quality, and add post-processing commands, which run after the job has been processed.

The device options are accessed via the Configure Device dialog (Figure 2.1), by clicking **Configure device** in a page setup. Any changes you make to a device remain local to the particular page setup they were made in and do not effect other page setups. This means you can have multiple page setups for the same output device, each with different device settings to suit your job processing needs.



**Figure 2.1** The Configure Device dialog

The following device processing options are available:

### Output method

Used to specify the output method for the job. Some output methods—for instance, LPT1—are only available if the operating system supports it. The following options are available:

- |                                  |  |
|----------------------------------|--|
| <b>File</b>                      | Outputs to the disk location that is specified in <b>File Output</b> , using the file template options (if any) that are specified in <b>File template</b> . This is the default output method for the plugin.                         |
| <b>Network</b>                   | Outputs to the printer whose IP address and port number are specified in the Network Output settings. The printer must be fitted with a suitable network interface card (NIC) for this option to work.                                 |
| <b>LPT1</b>                      | Windows only. Outputs to the printer attached to the parallel port on the RIP machine.   |
| <b>USB:&lt;printer model&gt;</b> | Outputs to the printer which is connected via USB to the RIP machine. Where <printer model> is the model name returned by the printer. Note that a printer will only appear when the host USB subsystem has acknowledged its presence. |

**SPL:**<printer name>

Where <printer name> is the name by which the printer is known to Windows. The plugin outputs data via the Windows printer spooler, offering the possibility of outputting to connection methods not directly supported by the plugin, such as *Firewire*.

### File Output

Used to specify a location for the output file. By default, it is the RIP's sw folder, but you may choose any valid location on your system or network.

### File template

Used to enter a file naming template for the processed jobs. By default, the file naming template is: <dos>out<5unique><dot>epf, which creates a file name that is cross platform (8.3 file name) and is suitable for multi-page jobs. See Appendix A, "Output File Naming" for more information on using file naming templates.

### IP address

Used to specify the network IP address or resolved name of the printer.

### Port Number

For genuine Epson network interface cards the following ports are commonly available:

|      |   |
|------|---|
| 9100 | Used for raw (no protocol), binary, bidirectional communications. |
| 515  | Used for lpr-protocol, binary, unidirectional communications.     |

For non-Epson network print servers, consult the relevant documentation, but note that port 515 is less likely to work with non-Epson interfaces.

### Media Type

Used to specify the media that is installed in the printer.

**Note:** This setting can be overridden by any Profile Hook associated with a selected ProofReady profile.

### Ink Type

Used to specify the ink type that is installed in your Epson 7800/9800 printer. Your printer manual should be able to advise you on the correct ink type to use for the paper you are using.

Ink types supported by the Epson 7800/9800 printer are as follows:

*UltraChrome (PhotoK-K3)*

For photographic and ink jet coated media types.

*UltraChrome (MatteK-K3)*

For matte or plain media.

**Note:** This setting can be overridden by any Profile Hook associated with a selected ProofReady profile.

**Paper Feed Adjustment Offset**

Enter a value in the range between -70 and +70 to control the rate of feed of the paper for your particular printer. The default value is zero. Positive values increase the rate of feed to reduce dark banding. Negative values decrease the rate of feed to reduce white banding.

**Quality**

Used to specify the overall output quality of the job. For excellent quality, choose “Enhanced Microweave”. For faster printing (but lower quality) choose “Faster Microweave”. Use “Standard Microweave” for good quality/speed, or “Printer Microweave” to let the printer handle the microweave processing, which may result in faster printing but lower quality results due to banding.

**Compression mode**

Used to specify the compression mode for data that is delivered to the printer. The available options are as follows:

|            |  |
|------------|--|
| None       | Data is sent raw (uncompressed). Can result in longer print times.                               |
| Run length | Data is sent compressed, which often reduces the transmission time and hence speeds up printing. |

**Paper Size**

In v6 and later RIPs this option is not enabled. Instead, use the options in the Page Layout dialog to specify the paper size, as described in Section 4.2.2 on page 20. In the Torrent RIP 5.5r1x, select the paper size that is installed in the printer from the **Paper Size** menu, and set it in the Page Layout dialog as well.

**Paper bin**

Not applicable for the Epson 7800/9800 printer.

**Cut paper at end of each page**

If using a roll-fed device, select this option to have the printer cut the paper at the end of each page. This option will be overridden by the printer if paper cutting is not enabled in the printer.

**Bidirectional printing**

Select this option to use bidirectional printing—a feature which allows the print head to print both when moving left to right and when moving right to left, thus speeding up printing. Be aware that quality may be affected when bidirectional printing is being used.

## Post Processing

Use the panel options to set up your post processing options. You may enter any command that can be run from a command line, and use the substitution codes listed in Appendix B, “Post Processing” to pass parameters to the command for executing. Note that **Enable** must be selected before the commands will execute.

## 2.3 Adding new output devices

The Torrent RIP printer plugins supplied by HighWater Designs often contain devices for more than one type of printer model. To limit the device list, however, only a single set of devices is added to the device list when a printer is enabled in the RIP. To add other devices you must add them manually, one at a time, as described next.

1. Open the Torrent RIP Device Manager, by choosing **Torrent > Device Manager**.
2. From the plugin list, select the correct plugin.
3. Click **New** to open the Device Manager Edit dialog.
4. Enter the following details:

|                |   |
|----------------|---|
| <b>Name</b>    | A name for the device. This should match the device name (including the use of upper and lower case letters). |
| <b>Type</b>    | Choose a type from the list.  |
| <b>Address</b> | Leave blank.  |

5. Click **OK** to apply these settings.

The new device will be created and will appear in the list of devices available for selection in a page setup.

## 2.4 Halftone screen selection

The Torrent RIP supplies halftone screens of various types for use with printers that support six, seven, eight or more inks. Screen selection is largely an automatic choice determined by the selected device. In particular, you should not change the default screening method when using ProofReady profiles as this will certainly affect the print quality.

A detailed explanation of the available screens and what effect they have on printed output is beyond the scope of this manual, but a brief description for each screening method is given below.

|              |  |
|--------------|--|
| <b>HEDS1</b> | This is one of the in-RIP EDS screens used to produce the supplied profiles for 1-bit device types. To use this screen, the HEDS1 screening plugin must be installed and enabled, as described in Section 1.3 on page 6. |
| <b>HEDS2</b> | This is one of the in-RIP EDS screens used to produce the supplied profiles for 2-bit device types. To use this screen, the HEDS2 screening plugin must be installed and enabled, as described in Section 1.3 on page 6. |

*HDS Super Fine (HDS SF)*

This is one of the screens used to produce the supplied profiles for biplane device types. If using a supplied profile based on this screen, ensure that this option is selected from the Edit Style dialog box accessed from the Separations Manager. This screen is only available for use with biplane or 1-bit device types.

*HDS Fine*

This is an alternative to HDS Super Fine, producing a coarser screen than HDS Super Fine. This screen is only available for use with biplane or 1-bit device types.

*HDS Medium**HDS Coarse**HDS Super Coarse*

The Medium, Coarse, and Super Coarse variants of HDS are only recommended as special effects screens. These screens are only available for use with biplane or 1-bit device types.

# 3

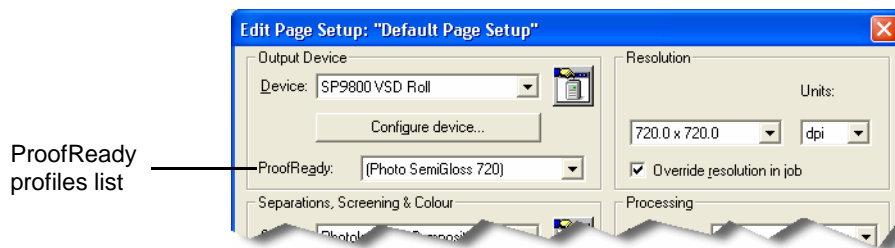
## ProofReady Profiles

To address the needs of print production professionals and their requirement for great looking proofs “out of the box”, the Epson 7800/9800 plugin includes ProofReady profiles for Torrent RIPs.

### 3.1 Supplied ProofReady profiles

The ProofReady profiles supplied for the Epson 7800/9800 plugin are listed in Table 3.1, page 16. The table also lists the media type, resolution, halftone screening method and inking scheme used to create the profile. If a suitable profile is not available for your particular setup, you will need to create your own, by following the instructions in Chapter 5, which describes the procedure for creating HIPP, ICC and ColorPro profiles and also for calibrating the printer to ensure consistent and reliable results.

ProofReady profiles are available for selection in a page setup once a device that supports them has been selected and the *Torrent ColorPro* plugin has been enabled in RIP Extras, as described in Section 1.4 on page 7. For details on configuring a page setup to output to the Epson 7800/9800 printer, see Chapter 4.



**Figure 3.1** Page Setup dialog showing location of ProofReady profiles

**Table 3.1** Epson 7800/9800 ProofReady profiles

| <b>ProofReady profile</b>   | <b>Resolution</b> | <b>Media type<br/>(part number)</b> | <b>Screening</b> | <b>Inking</b>  |
|-----------------------------|-------------------|-------------------------------------|------------------|----------------|
| Enhanced Matte 360          | 360 x 360         | Enhanced Matte (S047125)            | HDS SF           | CLcMLmYMKLkELk |
| Enhanced Matte 720          | 720 x 720         | Enhanced Matte (S047125)            | HEDS2            | CLcMLmYMKLkELk |
| Photo SemiGloss 720         | 720 x 720         | Photo SemiGloss Paper (S041779)     | HEDS2            | CLcMLmYPKLkELk |
| SemiMatte Proof 720         | 720 x 720         | Proofing Paper SemiMatte (S041724)  | HEDS2            | CLcMLmYPKLkELk |
| Premium SemiMatte Photo 720 | 720 x 720         | Premium SemiMatte Photo (S041738)   | HEDS2            | CLcMLmYPKLkELk |
| Premium Glossy 250g 1440    | 1440 x 720        | Premium Glossy Photo (S041742)      | HEDS2            | CLcMLmYPKLkELk |
| SemiMatte Proof 1440        | 1440 x 720        | Proofing Paper SemiMatte (S041724)  | HEDS2            | CLcMLmYPKLkELk |
| Premium Glossy 250g 2880    | 2880 x 1440       | Premium Glossy Photo (S041742)      | HDS SF           | CLcMLmYPKLkELk |
| Premium Luster 250g 2880    | 2880 x 1440       | Premium Luster Photo (S041737)      | HDS SF           | CLcMLmYPKLkELk |



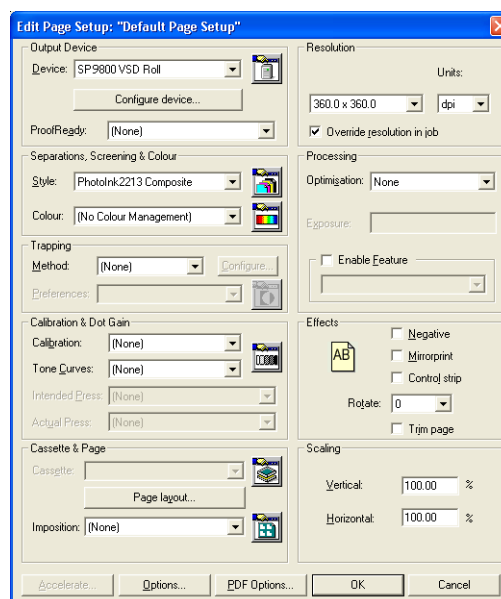
# Creating Page Setups

Every job that you supply to the RIP takes its imaging options from a named page setup. You can keep a number of different page setups which you use regularly—perhaps one that has Harlequin Precision Screening (HPS) turned on, and one that does not, one that previews images, and one that produces proofs for a particular paper type and resolution.

This section describes which imaging options to choose when outputting to the Epson 7800/9800 printer and, in particular, which options to choose when creating press proofs.

## 4.1 Creating a page setup

Follow these steps to create a page setup for an Epson 7800/9800 device that includes color management using a ProofReady profile.



**Figure 4.1** The Page Setup dialog is used to set job imaging options

1. In the Torrent RIP, open the Page Setup Manager by choosing **Torrent > Page Setup Manager**, or using the shortcut key **CTRL+S**.
2. Click **New** in the Page Setup Manager to create a new page setup.
3. Click **Device** and choose the Epson 7800/9800 device that you wish to use when processing jobs. See Section 2 on page 9 for details about which devices are available.

To change any of the device settings, choose **Configure device**. See Section 2.1 on page 9 for a list of Epson 7800/9800 devices and their usage. In particular, the device options should be changed to suit your required output method, to add post processing commands (if needed), and to specify the correct media type and ink type. Do not, however, change the **Quality** setting from **Enhanced Microweave** when using ProofReady profiles, since the profiles were created specifically for this setting.

4. Depending on which paper you are proofing for, select the correct profile from the **ProofReady** list. If the correct paper type is not listed, you will need to create your own color profile, as described in Section 5.4 on page 24. See Section 3 on page 15 for a list of the ProofReady profiles supplied with the Epson 7800/9800 plugin.
5. The following imaging options should be left at their default settings:
 

|                    |  |
|--------------------|--|
| <i>Resolution</i>  | Automatically set by the device.   |
| <i>Style</i>       | Automatically set by the device.   |
| <i>Color</i>       | Automatically set by the ProofReady profile.   |
| <i>Calibration</i> | Automatically set by the ProofReady profile. For optimum results you should choose a calibration set generated for your printer, rather than for a reference printer. See also Section 5.1 on page 21. |
| <i>Tone curves</i> | Automatically set by the ProofReady profile.   |
6. Halftone screen selection is automatically set by the chosen ProofReady profile or it can be selected manually through the Separations Manager, by changing the **Dot shape** option in the style sheet for something else. Be aware, however, that ProofReady profiles are created for a specific screening method, and that changing it may result in unsatisfactory results.
7. Click **Page Layout** to open the Page Layout dialog and use the options to set your media size and page layout settings. It is important to match the printer settings (as set on the printer control panel) with the settings in Page Layout if problems are to be avoided when outputting jobs. See Section 4.2 for further details on page layout.
8. When you have finished creating your page setup, click **Save As** and enter a name for your new page setup. It's good practice to choose a name which describes the purpose of the page setup. For example, **Epson9800 UCM Glossy Photo Wt1440**.

The new page setup can now be used in the Torrent RIP to process jobs.

## 4.2 Page layout options

The following points should be noted when setting the page layout options for a job.

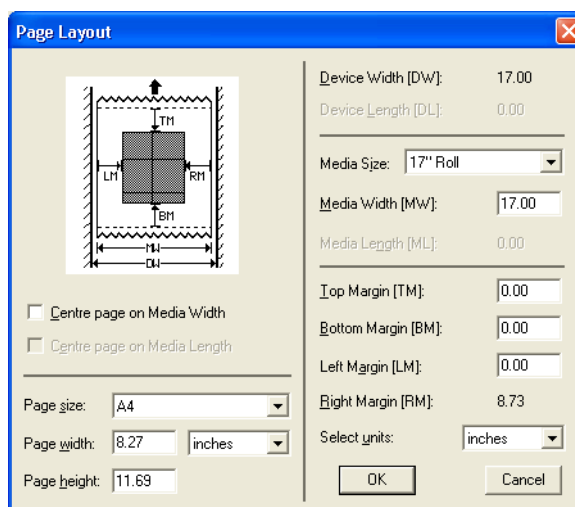


Figure 4.2 Page Layout options

### 4.2.1 Margins and centering options

The margins and centering options control where the imaged page is printed on the media. There is a small, unimageable margin around the edge of the media which must also be taken into account. The margin width varies from printer to printer, but your printer manual should be able to provide the necessary information.

The positioning of the job is also different for roll and sheet-fed devices:

**Roll-fed devices** When the device is roll-fed, the page defined by the job is located at the top-left of the sheet, unless you set a non-zero **Left Margin** or select the **Center page on Media Width** check box. You can also set both the **Top Margin (TM)** and the **Bottom Margin (BM)**. If you increase the **Bottom Margin (BM)** on a roll-fed device this adds space to the bottom of the page.

**Sheet-fed devices** When the device is sheet-fed, the origin of the page defined by the job is located at the bottom-left of the sheet. However, in the Page Layout dialog box of some versions of the RIP, only the **Top Margin (TM)** is editable with a default value of 0.00 inches. If these default settings were applied the job would be located at the top-left of the sheet. To prevent this, the **Top Margin (TM)** is applied as the **Bottom Margin (BM)**. If your version of the RIP needs to swap these values a message confirming this is displayed in the RIP monitor window.

If you increase the **Bottom Margin (BM)** on a sheet-fed device, space cannot be added to the bottom of the page. This means that the space available on the sheet is reduced.

### 4.2.2 Page, media and paper size

In the context of the Epson 7800/9800 page layout options, page size refers to the dimensions of the frame within which text and images are printed, and media size refers to the dimensions of the paper loaded into the printer. Epson, on the other hand, use the term 'paper size' when talking about media size. To print unclipped pages, the page size must not exceed the media/paper size.

Most jobs specify their own page size, so setting the page size options is often not necessary. Exceptions include EPS files and font proofs. Depending on which device is selected—roll or sheet—some of the sizing options will not be available if they are not relevant.

### 4.2.3 Transverse paper

All the standard paper sizes are available as 'transverse' paper sizes, in which the dimensions of the paper have been reversed. For example, with 'A4 Transverse' the paper is loaded into the printer with the landscape edge (long edge) first. When using a transverse paper, all the other settings should remain at their default settings.

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# Calibration and Color Management

The quality of your color management will have a strong influence on the overall quality, gamut range, tonal depth and color accuracy of your prints. It is vital, therefore, that your color profiles are created correctly, using a properly calibrated printer.

The information in this section describes how to calibrate your printer. Once you have done this you will be able to create ICC and Torrent ColorPro profiles, and use them to manage color in your jobs.

For more information on managing color in the Torrent RIP, see the *Torrent ColorPro User's Guide*.

## 5.1 Calibrating the printer

For optimum results, we recommend that you calibrate the printer for *each* device, paper type and output resolution combination that you use. To provide a useful starting point, the plugin is supplied with a number of calibration profiles that define an ideal, or 'reference', state for the printer. These can be found in `...RIP_folder\SW\Config\Devices\DevCalibration\` (one profile for each device type).

However, the response of your printer (the 'user printer') will undoubtedly differ from the reference printer. Therefore, to obtain optimum output quality, you need to calibrate the printer so that it responds in the same way as the reference printer. The adjustments needed to correct the user printer so that it matches the reference printer are defined in a calibration set. The supplied calibration profiles are distinguished from user-generated calibration sets by being enclosed in parentheses, like these ( ).

### 5.1.1 Print and measure an initial target

1. Create a page setup in the Torrent RIP with the following options:
  - **Device**—select the correct device
  - **ProofReady**—select (None)
  - **Calibration**—select the paper/resolution type
2. In the Torrent RIP, click **Output > Print Calibration** to open the Print Calibration window. From the list choose your page setup then click **Print uncalibrated target**.
3. Measure the printed target with *Genlin*, or your preferred calibration program. *Genlin* is installed with the Torrent RIP and is described in the *Torrent User's Guide*.

4. In the Torrent RIP, click **Output > Calibration Manager** to open the Calibration (Dot Gain) Manager. In the Manager click **Device** and select the correct device, and then click **New** to open the Edit uncalibrated target for... window.
5. In Edit uncalibrated target for..., click **Profile** and select the correct paper/resolution type. All other options should be left at their default settings (ensure **Force solid colors** remains unchecked).
6. In the **Name** field, enter an appropriate name for the initial profile, for example **Premium Glossy 250g 1440-1**.
7. Click **Import > Import** to read the calibration data.
8. Click **OK** until all open windows are closed.

### 5.1.2 Print and measure a second target

1. Open your page setup (the one you used to print the initial target). From the **Calibration** list, select the calibration profile you just created (**Premium Glossy 250g 1440-1**) then click **OK** to close the page setup window.
2. Open the Print Calibration window. Select your page setup and click **Print calibrated target** (note this time you are selecting *calibrated* target). Measure the printed target.
3. Open the Calibration (Dot Gain) Manager. Select the appropriate device and choose the calibration profile that you made with the initial target.
4. Click the **Copy** button to create a duplicate of the profile. From the list select the copy and click **Edit from calibrated target** to open the Edit calibrated target for... window.
5. Change the name of the profile to **Premium Glossy 250g 1440-2** and click **Import > Import** to add the calibration set.
6. Click **OK** until all open windows are closed.

### 5.1.3 Print and measure a final target

1. In the RIP, open your page setup and from the **Calibration** list select **Premium Glossy 250g 1440-2**. Click **OK** to close the window.
2. Open the Print Calibration window. Select your page setup and click **Print calibrated target**. Measure the target with *Genlin* or your favorite calibration program.
3. Open the Calibration (Dot Gain) Manager. Select the device and the calibration set you created for the second target.
4. Click the **Copy** button to create a copy of the profile. Select the copy and click the **Edit from calibrated target** button.
5. Name the profile **Premium Glossy 250g 1440-F**, to indicate it is the final calibration set. Click **Import** to read the calibration data, and click **OK** to add the calibration set to the Calibration Manager. You should remove all the intermediate calibration sets from the Calibration Manager to avoid choosing the wrong profile in a page setup.
6. Modify your page setup so that it uses the final calibration set.

## 5.2 Recalibrating

You should periodically recalibrate the printer to ensure consistent output results, as follows:

1. Click **Output > Print Calibration** to open the Print Calibration window. Select the appropriate page setup and click **Print calibrated target**. Measure the printed target.
2. In the RIP, click **Output > Calibration Manager** to open the Calibration (Dot Gain) Manager window and select the calibration set used in the page setup.
3. Click **Edit from calibrated target** to open the Edit calibrated target for... window. Click **Import > Import** to read the calibration data and **OK** to save the profile. You may want to enter a new name for the profile to indicate it is an updated profile, for example **Premium Glossy 250g 1440-Date**.
4. Modify your page setup so that it uses the new calibration set.

## 5.3 Creating an ICC profile and installing in the RIP

Creating an ICC profile and installing it in the RIP consists of:

1. Creating a suitable page setup.
2. Printing and measuring and ICC profiling target to produce an ICC profile.
3. Installing the ICC profile in the RIP.

### 5.3.1 Create a page setup

To process the ICC profiling targets and output them to a printer, you will need to create a page setup which uses the correct printer model, media type, ink and output quality, as described in “Creating Page Setups” on page 17. The page setup must *not* have any color management or calibration options selected; these should be set to (None) or (No color management) as applicable. Or, if you have created a ‘Golden State’ profile for the printer, using the *SetGold* utility, for example, you may select the profile and use it as a suitable reference state for the printer.

Having created a suitable page setup, use it to print the ICC profiling target and measure it using an appropriate software package.

The exact procedure you should use varies from package to package, but it is possible to give some general hints:

- **Total area coverage:** For some paper types the total area coverage should be limited. This depends on the paper, ink type, resolution and screening used, but a good guide is to limit the coverage for coated media (Premium) to 280%, whereas matte media should be around 320%. Some experimentation may be required to determine the optimum setting.
- **Number of patches:** Although the number of color patches printed and measured is not always a guide to color quality, it is generally true that printing more patches produces better results for any given ICC profiling package.

Having created the ICC profile, install it using the menu option **Color > Install ICC Profile**. In the **Linear Calibration From** menu in the Install ICC Profile dialog box choose either:

- **Linear** if the page setup you used contained no color management data (raw state); *or*
- The name of the calibration profile or calibration set that you used in the page setup (golden state). The calibration data is incorporated into the ICC profile when you import it. This means you can delete the temporary calibration profile or calibration set once you have imported the ICC profile.

You can create a color setup using this profile (see Section 5.4 next for details).

## 5.4 Creating ColorPro profiles

The selection of a calibration profile (pre-v6.0 Torrent RIPs) or a ProofReady profile (Torrent v6.0 or later RIPs) automatically includes a default color setup to provide instant color management. The color profiles used in the default color setups are also available for the creation of your own color setups. Alternatively, you could also create a color setup using imported ICC profiles. See Section 5.3 on page 23 for further information on creating ICC profiles. Creating your own color setup allows you to specify the input profiles as well as other color setup options.

Follow these steps to create a color setup:

1. Choose the menu option **Color > Color Setup Manager**.
2. Choose the device for which you want to create this color setup from the **Device** menu. For example, choose **SP9800 VSD Roll**.
3. Click **New** or **New 'ColorPro' Setup**, depending on your RIP version.
4. If using a pre v6.0 release RIP, click **Create** in the ICC (HIPP) section of the Create Color Setup dialog box.
5. In the New Color Setup dialog box, choose the options for the color setup you are creating. For example, choose **3M Matchprint** for the CMYK input profile and **sRGB** for the RGB input profile and then choose **Premium Glossy 250g 1440** as the output profile.
6. Choose **(->Default)** from the **ICC Rendering Intents** or **Main intent** menu, depending on your RIP version.
7. Set the remaining options, as required. For details of these options see the *Harlequin Color Production Solutions User's Guide* or the *Torrent ColorPro User's Guide*.
8. Click **Save As** to save this color setup.
9. Enter a name for the color setup in the **Save As** text box in the Save Setup dialog box. Click **Save** and then **OK** to close the Color Setup Manager.

You may now use this color setup in a page setup.

## 5.5 Using Harlequin Full Color System (HFCS)

In versions of the RIP prior to the v6 release, the Harlequin Full Color System (HFCS) can be used to create a color setup, as described in the *Harlequin Color Production Solutions User's Guide*.

Take care to select an appropriate profile for the paper being used and ensure that the resolution and screening settings are as required by the profile.



When using HFCS there is no need to install ICC profiles for the printer because HFCS will automatically produce color rendering dictionaries from the data contained in the selected profile. Should you wish to do so, however, it is possible to install and use ICC profiles with HFCS in the same way as with HIPP.

# Appendix A

## Output File Naming

Using text and tags you can automatically generate an output file name from the job name, job details such as colorant information and resolution, or date and time information. The tags are entered in the **File Template** field in the Configure Device dialog box (shown in Figure 2.1), and a complete list of supported tags can be found in Table A.1, page 26.

Most tags are content tags, representing variables such as the date and time a job is processed; the other tags allow you to reject names that would be illegal in a specified operating system. The maximum length of variables can be specified by preceding the tag name with an integer. For example, `<5jobname>` truncates the job name to a maximum of five characters. Tags that produce numeric values are truncated from left to right, whereas tags that produce alphanumeric strings (strings containing the characters a-z, A-Z, and 0-9) are truncated from right to left. See “Examples of tag usage” on page 28 for further details.

Fixed text can be part of the file name stem or extension. For example, `stem_<3unique><sepname><dot>epf` would generate a file name of the form: `stem_000Cyan.epf`, in which `stem_` can be any identifying text.

Try to use a file name extension that does not clash with any established convention. The extension `epf` is a suggestion only and is formed from the initial letters of *Epson Printer File*.

**Note:** This file naming scheme does not provide useful file names derived from job names that contain double-byte characters.

### A.1 Content generating tags

The following tags are available and can be used in any order:

| Tag                            | Description   |
|--------------------------------|---|
| <code>&lt;ascii&gt;</code>     | This limits the character set of the file name (from the point of the tag onwards) to ascii characters in the range 32 (0x20) to 126 (0x7E). Characters outside this range are discarded. If the user wishes to substitute invalid characters rather than discarding them, prefix the ascii tag with the substitution character value in decimal. |
| <code>&lt;colorant&gt;</code>  | The color space of the device, such as <b>PhotoInk</b> .  |
| <code>&lt;colorname&gt;</code> | The name of the separation, such as <b>Cyan</b> .   |
| <code>&lt;date&gt;</code>      | The date when the job is processed, in the format <b>YYMMDD</b> , unless a truncated form is specified.   |

**Table A.1** Output file name tags

| Tag          | Description  |
|--------------|--|
| <dot>        | Separates the stem of the file name from the file extension, and appears as a period character ( . ) in the file name. For example, <i>stem</i> <dot> <i>ext</i> appears as <i>stem.ext</i> . The use of the <dot> tag enables the verification of the stem and extension lengths. |
| <job#>       | The job number allocated by the RIP. Automatic numbering means that successive jobs have incremented job numbers: 000, 001, 002, 003, and so on.   |
| <jobname>    | The page buffer name without the page number prefix and without characters illegal to the operating system. White space characters are used, if present in the job name.   |
| <jobname1>   | The page buffer name without the page number prefix, and using only alphanumeric characters (a-z, A-Z, 0-9). White space characters are <i>not</i> used.   |
| <jobonly>    | This gives the job name without the separation name in brackets, for example, where <jobname> would give <b>myjob (PANTONE Reflex Blue CVC)</b> , <jobonly> will give <b>myjob</b> .   |
| <page#>      | The page number (allocated by the RIP) within the current job. For example: 002.   |
| <prefix>     | The page number prefix from the page buffer name, such as 1 . , 2 . , and so on.   |
| <prefixonly> | You can use this tag to include the characters from the prefix before the full stop in the job name (that is, the prefix, not including the dot and space characters).   |
| <time>       | The time when the job is processed, in the 24-hour format <b>HHMMSS</b> , unless a truncated form is specified.  |
| <unique>     | A unique sequence number used to make file names unique when outputting files to a directory.  |
| <xres>       | The horizontal resolution of the page, as specified in the page setup.   |
| <yres>       | The vertical resolution of the page, as specified in the page setup.   |

Table A.1 Output file name tags

## A.2 Checking tags

The plugin always checks the legality of an automatically generated file name against the requirements of the operating system on which the RIP and the plugin are running.

To enable portability of files from one operating system to another, you can also use tags to specify the operating system for which generated file names must be suitable. The use of these tags changes the rules by which a file name is deemed valid. The tags will remove illegal characters but do not otherwise modify the file name length (hence, will cause error messages if the file name is invalid). See Section D.1.2 on page 45 for more information on file naming messages.

For example, you can create the template <dos>Averylongfilename.epf, but an error is generated. This error occurs because DOS file names require the 8.3 format for stem and extension, which this template fails to meet by having 17 characters in its stem. Table A.2 lists the operating system tags.

| Tag      | Description   |
|----------|---|
| <dos>    | Verifies that the file name is a legal file name for the MS-DOS operating system.     |
| <mac>    | Verifies that the file name is a legal file name for the Mac OS 9.x operating system. |
| <macosx> | Verifies that the file name is a legal file name for the Mac OS X operating system.   |
| <unix>   | Verifies that the file name is a legal file name for the UNIX operating system.       |
| <win32>  | Verifies that the file name is a legal file name for Windows operating systems.       |

Table A.2 Operating system tags

## A.3 Examples of tag usage

The following examples demonstrate the format of strings produced by individual tags. Some examples also show how the tags may be used in combination to form a template. The examples are based on these job details:

*Page buffer name:* 1. Uncalibrated Target: Epson Stylus Roll-Fed 4-Color Target

*Date:* 10th of October, 2006

**Note:** When creating multiple copies of a file, the same page buffer provides tag information. If a template contains dynamic tags (such as <time>, where the value changes each time that a page buffer file is output), then multiple copies of the file are created. If the template contains just static tags (such as <jobname>, where the job name remains constant), then a single output file is created because previous files are overwritten.

<colorant>

This tag includes the color space of the device in the file name string.

For example, the template <colorant><dot>epf produces a file name of the form PhotoInk.epf for a device using a PhotoInk color space.

<colorname>

The tag <colorname> can be used to include the name of the separation in a file name, for example, cyan. You can include just the first letter of the separation by using the tag <1colorname>, which truncates the separation name to its first letter. If a composite style is used this is indicated by the string Composite. If a monochrome style is used this is indicated by the string Gray.

<date>

The template <date><dot>epf produces the file name 20061010.epf. You can remove the year information by using the tag <4date> to produce the file name 1010.epf.

<dos>

The use of this tag verifies that the file name is suitable for use in a DOS operating system. Illegal characters such as a colon, and white space characters are removed.

For example, the template <dos><jobname><dot>epf would generate an illegal file name because the job name is greater than the eight characters allowed in DOS operating

systems. Truncation can be forced by using the template `<dos><8jobname><dot>epf`, which produces the file name `Uncalibr.epf`.

#### `<dot>`

This tag separates the file name stem from the file name extension and enables the verification of their lengths. It is particularly necessary when creating file names compatible with DOS and Windows, otherwise the extension may be considered as part of the file name.

For example, the template `<dos><8jobname>.epf` would cause an error because the dot is removed as an illegal character and `epf` is then considered part of the file name stem.

#### `<job#>`

You can use this tag to include the job number in the file name string. The default length of the number is three digits, so the first file name created with this tag would be `000`, unless a different length is specified. You can specify the length of the job number by preceding the `<job#>` tag with an integer. For example, `<5job#>` creates job numbers five digits long.

In multi-page jobs use the `<page#>` tag as well as the `<job#>` tag to differentiate between the different pages of a job.

#### `<jobname>`

This tag ensures that only legal operating system characters are used in the job name.

For example, in the RIP running under any Microsoft Windows operating system, the template `<jobname><dot>epf` can produce the file name `Uncalibrated Target Epson Stylus Roll-Fed 4-Color Target.epf`. The colon character ( : ) is removed from the file name, because this is not a valid file name character for any version of Microsoft Windows.

#### `<jobname1>`

This tag ensures that only alphanumeric characters are used in the job name.

For example, in the RIP running under a Windows operating system, the template `<jobname1><dot>epf` can produce the file name `UncalibratedTargetEpsonStylusRollFed4ColorTarget.epf`. The colon, hyphens and white space characters are removed from the file name, because they are not alphanumeric characters.

#### `<mac>`

The use of this tag verifies that the file name is suitable for use in a Mac OS 9.x operating system. Illegal characters such as an asterisk, colon, and quotation marks are removed. The maximum length of a file name is thirty-one characters (including the file extension).

For example, using the template `<mac><27jobname><dot>epf` produces the file name `Uncalibrated Target Epson S.epf`, in which the colon has been removed.

#### `<macosx>`

The use of this tag verifies that the file name is suitable for use in a Mac OS X operating system. Illegal characters such as a colon, or double-quotation marks are removed.

For example, the template `<macosx><jobname><dot>epf` produces the file name `Uncalibrated Target Epson Stylus Sheet-Fed 4-Color Target.epf`, in which the colon has been removed.

**<page#>**

You can use this tag to include the page number in the file name string.

For example, the template `<page#><dot>.epf` produces a file name of the form `001.epf`. It is advisable to use this tag with the job number tag to differentiate between the same pages of different jobs.

**<prefix>**

You can use this tag to include the page number prefix from the page buffer name in the file name string.

For example, based on the page buffer name above, this tag produces the string `1`.

**<time>**

You can use this tag to include the time a file is processed in the file name string.

For example, if printing to file at 15:39:36 (approximately 3:39 pm) this tag produces the string `153936`.

**<unique>**

You can use this tag to generate a unique sequence number for the page. The default length of the number generated is four digits long, so the first number would be `0000`. The length of the number can be specified, as detailed in the example for the tag `<job#>`.

When restarting the RIP, the unique numbering will attempt to restart at its initial value, for example: `0000`. However, if a file exists with that number, the next available unique number is used.

**<unix>**

The use of this tag verifies that the file name is suitable for use in the UNIX operating system. Illegal characters such as an asterisk, colon, and quotation marks are removed. The `<dot>` tag cannot be used with this tag because file names in UNIX are composed of a single string and are not considered to have separate file extensions.

For example, using the template `<unix><255jobname>.epf` produces the file name `UncalibratedTargetEpsonStylusRoll-Fed4-ColorTarget.epf`, in which the colon and white space characters have been removed.

**<win32>**

The use of this tag verifies that the file name is suitable for use in a Windows operating system. Illegal characters such as an asterisk, colon, or quotation marks are removed.

For example, the template `<win32><jobname><dot>.epf` produces the file name `Uncalibrated Target Epson Stylus Sheet-Fed 4-Color Target.epf`, in which the colon has been removed.

**<xres>**

You can use this tag to include the horizontal resolution of the page in the file name string.

For example, you can differentiate between pages with a resolution of 1440 x 720 dpi and 720 x 720 dpi by using this tag. This tag produces a string such as `1440` or `720`, depending on the horizontal resolution.

**<yres>**

You can use this tag to include the vertical resolution of the page in the file name string. For example, on a page with the resolution 1440 x 720, this tag produces the string 0720.

# Appendix B

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## Post Processing

The Configure Device dialog box (shown in Figure 2.1) has a **Post Processing: Command** text box in which you can enter commands and their options, in the same way as a command line. These commands are carried out after the page buffer has been sent to the printer or once the output file has been created. The commands available depend on the platform on which you are running the RIP.

The command can be a simple batch file or a complex application, provided that you give the command all necessary options and information; a command needing operator intervention is likely to cause problems. You can specify options understood by the application, and data such as the path of the relevant input or output files.

You can use post processing commands to convert the file to a different format or to send somebody an e-mail notifying them that a job has been processed. There are several other possibilities, such as extracting information for use in reports, limited only by your ability to obtain or create a suitable application and to supply information to it.

If the string you enter into the **Post Processing: Command** text box refers to a post processing application then this application must be available on the computer running the RIP. The string should normally include the file extension and the full path name of the application file.

However, you can type just the file name if the application file has the extension **.EXE** and is in one of the directories specified by the **PATH** variable.

Your string can contain substitution codes, which are expanded by the RIP. See the next section for details.



## B.1 Post processing substitution codes

When using the post processing feature of the Epson 7800/9800 plugin, the RIP recognizes the substitution codes in the following list. You can insert an integer between the percent character and the letter code, to restrict the maximum number of characters used in the result string. For example, %6j represents the first six characters of the job name.

| Post processing substitution codes | Description   |
|------------------------------------|---|
| %c                                 | The current separation color, represented by a string with a default length of one character. Typical separation names are <b>Cyan</b> , <b>Magenta</b> , <b>Yellow</b> and <b>Black</b> . Examples for the default length are: <b>C</b> , <b>Y</b> , <b>M</b> and <b>B</b> .   |
| %d                                 | The current date in the format YYYYMMDD, with a default string length of 8. For example, 24 October 2006 becomes: 20061024.   |
| %f                                 | The output file name, as created by the template specified in the <b>File Output: File Template</b> text box in the Configuration dialog box. For example: <b>out00001.epf</b> .  |
| %g                                 | The current page buffer name as shown in the Output Controller/Monitor, after removal of the numeric prefix and non-alphanumeric characters. For example: the page buffer name <b>1. Apple.ps</b> becomes <b>Appleps</b> .  |
| %j                                 | The current page buffer name as shown in the Output Controller/Monitor. For example: <b>1. Apple.ps</b> .   |
| %n                                 | The current job number, an integer that the RIP increments each time it processes a new job. For example: <b>15</b> .   |
| %o                                 | The full output directory path specified in the <b>File Output: Change...</b> text box. For example: <b>C:\Program Files\HighWater Designs\Torr7.2\SW\Output\</b> .   |
| %p                                 | The current page number within the job. For example: <b>4</b> .   |
| %r                                 | The job resolution in dots per inch. For example: <b>300</b> .  |
| %s                                 | The current page buffer name as shown in the Output Controller/Monitor, after removal of the numeric prefix, any bracketed text and any text that appears before a colon (:), semi-colon (;), a commercial at symbol (@), and a hyphen (-). For example: the page buffer name <b>1. Apple-test (new) .ps</b> becomes <b>test.ps</b> . |
| %t                                 | The current time in the format HHMMSS, using the 24 hour clock. The default length is 6. For example, a time just after 7:30 pm would be shown: <b>193211</b> .   |
| %x                                 | The current file name suffix. For example: <b>epf</b> .   |
| %z                                 | The current file name stem. For example: <b>out00001</b> .  |

**Table B.1** Post processing substitution codes

## B.2 Checking the command string

The RIP reports each command and the working directory in the main RIP monitor window, in the following form. Italics show which text can vary with different jobs and page setups.

```
Running post-job command "C:\test\logfile.bat out00002.epf 112442" in directory
C:\Program Files\HighWater Designs\Torr7.2\SW\Output\
```

The above example refers to a batch file (*logfile.bat*) which uses a program to send an e-mail confirming that a job has been processed. The e-mail contains the output file name (*out00002.epf*) and the time it was processed (approximately 11:24). These details were provided by using the substitution codes %f and %t in the post processing text box. The working directory is the output file folder specified in the **File Output: Change...** text box. If no output file folder is specified then the working directory is the RIP's 'sw\' directory, which is one level below the directory containing the RIP executable (for example, C:\Program Files\HighWater Designs\Torr7.2\SW).

For a more thorough test of how commands behave when used at the command prompt of the operating system, try creating a batch (.BAT) file with these contents and using the name of the batch file as the application in your command string:

```
echo %1 %2 %3 %4 %5 %6 %7 %9
pause
```

**Note:** If you have problems with a command, test it outside the RIP by opening a command window and running the command manually. If you think that you have used any substitution code from which the RIP might generate an element containing characters with a special meaning to your operating system, try surrounding that code with double quotes. For example, use "%f" in the post processing text box rather than just %f.

If there are no special characters involved, look at the number of substitution codes that you are using and the length of the command string both before and after expansion of the substitution codes. The limit on the length of the expanded command string varies with the Microsoft Windows environment but you should have no problems with up to 125 characters in the string after expansion.

# Appendix C

---

## Memory Requirements

To operate efficiently and reliably, the Torrent RIP requires an adequate amount of memory when processing jobs. Depending on the size and complexity of the jobs you wish to process, you may need to allocate additional memory resources to the RIP when processing output for the Epson 7800/9800 printer.

### C.1 Determining processing overhead

The following procedure will help you to determine how much memory ‘overhead’ is required for the RIP when processing a job for the Epson 7800/9800 printer. Before you begin, you will need to know what the page size, output resolution, screening method and microweave settings are for the job(s) you wish to process. This information is available through the page setup dialog you are using to process the job.

1. Using Table C.1, page 37 (for HEDS1 screening) or Table C.2, page 37 (for HEDS2 screening), look up the ‘memory factor’ figures for the job you wish to process. For example, if the job is being output at 1440 dpi, using enhanced microweave with HEDS2 screening, the memory factors will be ‘8.2 / 2.2’. ‘8.2’ is the printer buffer overhead, and ‘2.2’ is the minimum memory left for system overhead.
2. To calculate the printer buffer overhead:

`Printer buffer overhead = (Page width in inches) x (printer buffer factor) + 5`

Example:

*Page width:* 17 inches

*Printer buffer factor:* 8.2

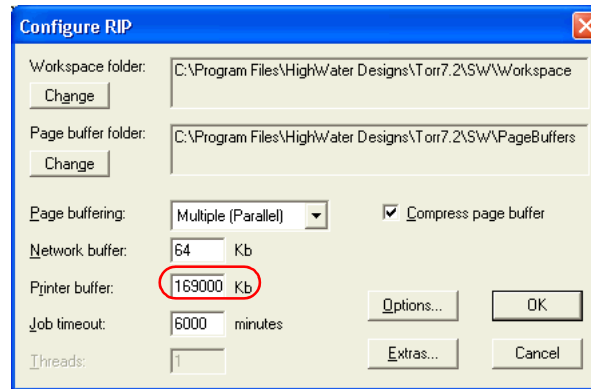
*Printer buffer overhead:*  $(17 \times 8.2) + 5 = 144.4$  MB

3. To calculate the *total* printer buffer required by the RIP:

`Total printer buffer = (Printer buffer overhead) + (Printer buffer base-recommendation)`

The base-recommendation value for the printer buffer is 20 MB, so the total printer buffer—using the example figures—is:  $144.4 + 20 = 164.4$  MB, or approximately 169000 Kbytes.

4. Enter the figure of 169000 in the **Printer buffer** box of the Configure RIP dialog, as shown in Figure C.1.



**Figure C.1** The Configure RIP dialog

5. To calculate the minimum memory left for system overhead:

**Minimum memory left for system overhead = (Page width in inches) x (minimum memory-left-factor)**

**Example:**

*Page width:* 17 inches

*Minimum memory left factor:* 2.2

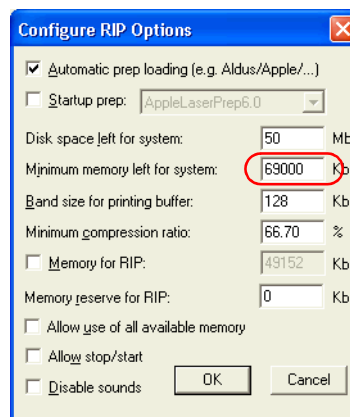
Minimum memory left for system overhead:  $17 \times 2.2 = 37.4$  MB

6. To calculate the *total* minimum memory left for system required by the RIP:

**Total minimum memory left for system = (Minimum memory left for system overhead) + (Minimum memory left for system base-recommendation)**

The base-recommendation value for the printer buffer is 30 MB, so the total printer buffer—using the example figures—is:  $37.4 + 30 = 67.4$  MB, or approximately 69000 Kbytes.

7. Enter the figure of 69000 in the **Minimum memory left for system** box of the Configure RIP Options dialog, as shown in Figure C.2.



**Figure C.2** The Configure RIP Options dialog

8. Click **OK** to confirm your new memory settings.

## C.2 Memory factor tables

**Table C.1** Memory factors for HEDS1 or HDS screening

| Resolution (dpi) | Enhanced Microweave | Standard Microweave | Fast Microweave | Printer Microweave |
|------------------|---------------------|---------------------|-----------------|--------------------|
| 360              | 0.2 / 0.4           | 0.2 / 0.2           | 0 / 0           | 0 / 0              |
| 720              | 0.6 / 1.1           | 0.6 / 0.6           | 0.6 / 0.6       | 0 / 0              |
| 1440             | 1.1 / 1.1           | 1.1 / 1.1           | 1.1 / 1.1       | N/A                |
| 2880             | 4.1 / 4.2           | 4.1 / 4.2           | 4.1 / 4.2       | 0 / 0              |

**Table C.2** Memory factors for HEDS2 screening

| Resolution (dpi) | Enhanced Microweave | Standard Microweave | Fast Microweave | Printer Microweave |
|------------------|---------------------|---------------------|-----------------|--------------------|
| 360              | 1.2 / 0.7           | 1.2 / 0.4           | 0 / 0           | 0 / 0              |
| 720              | 4.1 / 2.2           | 4.1 / 1.2           | 4.1 / 1.2       | 0 / 0              |
| 1440             | 8.2 / 2.2           | 8.2 / 2.2           | 8.2 / 2.2       | 0 / 0              |

# Appendix D

---

## Troubleshooting

This section describes messages that may appear in the RIP monitor window and offers troubleshooting advice and tips on how to maximize your use of the plugin. If you have difficulty understanding any message, report the exact message to your support organization.

**Note:** Most of these messages appear in the RIP monitor window and are preceded by details of the plugin and device that you are using. For example:

```
ProofReady - Epson 9800 Sheet)
Message...
```

### D.1 RIP Monitor windows output messages

Any problems that occur when outputting a job will be reported by the RIP in the RIP monitor window. Most output problems can be cleared by simply aborting the output job in the RIP before removing the printer media.

#### D.1.1 Printer messages

The following printer-related messages may be reported by the plugin.

**Auto sheet feeder will not be used because it is not allowed with the selected media**

This message indicates that manual sheet feed has been forced on media that does not support it. These include: Smooth Fine Art Paper, Textured Fine Art Paper, Velvet Fine Art Paper.

**Auto cut has been switched off because it is not allowed with the selected media**

This message indicates that auto-cut has been prohibited on the selected roll media type.

**Printer rear cover open**

Output will stop until the printer cover is closed.

**Multi-sensor error**

See printer documentation.

**Cleaning failed**

See printer documentation.

**Ink levels K n%, C n%, M n%, Y n%, LC n%, LM n%, LK n%, ELK n%**

Where n% represents a number followed by a percent sign, for example, 87%. Indicates the remaining percentage of ink for each of the cartridges on an 8-color printer loaded with 8-color inks.

**Ink levels K n%, C n%, M n%, Y n%, K2 m%, C2 n%, M2 n%, Y2 n%**

Remaining percentage of ink for each of the cartridges on an 8-color printer loaded with CMYK inks.

**Warning - ink low - cartridge %s**

Where %s is a string, for example, #3, or #2, #5, #7. This message indicates that one or more ink cartridges are getting low – the numbers refer to the cartridge positions, from left to right, on the printer. (The numbers should also be printed above the ink cartridge position on the printer.) #3 means cartridge number 3 is low. #2, #5, #7 means cartridge number 2, cartridge number 5 and cartridge number 7 are all low.

**The selected ink combination does not match this printer**

This error occurs when the print job does not match the inks that are installed in the printer. For example, if you attempt to send a job to the printer that contains matte black and the printer only has photo black installed.

**Note:** The plugin is only able to output this message when it is able to query the printer and check the ink variant. On unidirectional communication connections, or if the printer is in a state which prevents it responding to the query, the plugin may be unable to detect the mismatch before it starts to send the job. In such cases, a command-error will occur on the printer.

**Control panel in use**

This message occurs when the printer control panel is being used. The plugin resumes printing when the printer allows it (that is, when the control panel is not being used).

**Paper gap error**

The paper is too thick or the adjustment lever is in the wrong position.

**Cutter position error**

The roll paper cutter did not return to the correct position.

**Cutter jam**

The cutter is jammed.

**Ink color error**

This error occurs when the ink is changed during a print, for example, the black ink was changed from Photo to Matte.

**Ink combination error**

An ink combination error.

**Warning: Top and Bottom Margin values will be swapped.**

This warning informs you that your version of the RIP needs to swap values specified in the Page Layout dialog box for the top and bottom margins to correctly deal with sheet-fed devices.

**Device overrides applied for profile (profile details)**

The device settings required by supplied profiles are known to the plugin and these settings override any settings you may have changed. This is to ensure correct color management.

**SWOP proofing overrides applied for profile 'SWOP-cert SemiMatte Proof'**

The device settings required by the SWOP-certified profile are known to the plugin and these settings override any settings you may have changed. This is to ensure correct color management.

**Warning - no image in the printable region**

This warning is rare and only appears when an image smaller than the unprintable area is positioned at the edge of the media so that it is completely clipped. In this case, the job is processed but the output page will be blank.

**Resolution changed to  $N \times N$** 

This message confirms that the square resolution setting in the Page Setup dialog box has been changed to a  $N \times N$  mixed resolution.

**Page Layout media size is less than the Configure Device paper size - clipping may occur**

This message can appear if you create a page setup that uses a custom paper size and you edit the page setup so that it uses a larger, standard paper size. If this is the case, clipping may occur because the media values in the Page Layout dialog used for the custom paper size are still associated with this page setup and, in this instance, they specify the maximum paper size. You can either change the media values in the Page Layout dialog box so that they are larger than the paper size chosen in the Configure Device dialog box, or you can create a completely new page setup.

**Image width too large for device - clipping may occur****Image height too large for devices**

These messages can occur when limits on the movement of the head prevent the printer from using the entire printable area of the media.

**Failed to allocate buffers for swathes ( $N$  Kb)**

If this message occurs, try increasing both the **Minimum memory left for system** and the **Memory for the RIP** by the amount shown in the brackets. On a PC platform, both of these options are in the Configure RIP Options dialog box, accessed by choosing **Torrent > Configure RIP** and clicking **Options**.

On a Macintosh platform, you must use the menu option **File > Get Info** to configure the memory for the RIP. You can then set the preferred size to your chosen value.

**Failed to allocate buffer for compression swathe****Failed to allocate SwatheArray****Failed to allocate BandsCache; not enough memory**

If any of these messages occurs, try increasing the **Minimum memory left for system** and the **Memory for the RIP** by multiples of 1 MB. On a PC platform, both of these options are in the Configure RIP Options dialog box, accessed by choosing **Torrent > Configure RIP** and clicking **Options**.



**Failed to allocate band buffers (N Kb); not enough memory**

If this message occurs, try increasing both the **Minimum memory left for system** and the **Memory for the RIP** by the amount shown in the brackets. On a PC platform, both of these options are in the Configure RIP Options dialog box, accessed by choosing **Torrent > Configure RIP** and clicking **Options**.

Alternatively, you can increase the **Printer buffer** by the amount shown in the brackets. This option is also within the Configure RIP Options dialog box.

**Print buffer is too small to output this page**

This message can appear during output. To prevent this error, use **Torrent > Configure RIP** to display the Configure RIP dialog box. Set the number shown for **Printer buffer** to 32768 KB or more.

**Note:** You may also see a similar message while using Roam or Reduced Roam. The cure is the same.

**Not enough system memory to output this page**

This message can appear during output when the RIP is not supplying enough memory for the needs of the operating system on the computer. Set **Minimum memory left for system** to 10000 Kb in the Configure RIP Options dialog box. You may need to set a higher figure for large page sizes.

**Warning - this printer (printer name) may not be the expected model**

The model name returned by the printer is not one of the expected names for the output device. In this case, the quality of the output cannot be guaranteed.

**Unable to confirm printer status/model**

Either the connection method does not support bidirectional communications, or the initial attempt to determine the printer status and model name did not produce a reply within 15 seconds. The plugin will assume that the printer is in the correct state and is the correct model and it will send the job to the printer.

**Warning - printer status is unreliable**

This message indicates that the status information being returned by the printer may be corrupted.

**Command error on printer or wrong ink type**

If this message occurs, you will need to restart the printer. You should also check that the ink type selected in your page setup is correct for the printer, before resubmitting the job.

**The selected ink type is incorrect for this printer**

This message can occur when the job or associated profiles are for a different ink type to that installed in the printer. You should ensure that the Calibration and Color profiles used in your page setup are for the ink type installed in your printer (Photographic Dye™ versus Archival™), or that you are using the correct UltraChrome Black (Photo Black versus Matte Black). You should also check that the **Ink type**, as chosen in the Configure Device dialog, is correct.

`%%[Error - Inking regime <name> is not a dictionary ]%%`

Each inking regime name should be associated with a value comprising a PostScript language dictionary.

`%%[Error - Inking regime <name> has not been defined ]%%`

This message appears when the inking regime information necessary for the particular ink, screening, inking regime and resolution combination is missing. Check that you are using a supported combination.

`Warning - ink type not recognized and will not be verified`

This message appears when the ink type information associated with a job has not been recognized. In such cases, the plugin cannot verify whether the printer is using the ink type required by the job.

`Printer communication failed ( error details )`

`Unable to connect to printer ( error details )`

The text and numbers in parentheses varies, depending on the reason why the RIP cannot connect to the printer. The final number is the error code generated by the operating system and can be used to determine the exact cause of the connection failure.

`Unknown output method selected`

`Cannot open selected output method ( error details )`

`Open error (error details)`

`Unable to open output (error details)`

These messages may appear with a variety of text replacing *error details*. The text varies according to the method of output that you chose in the Epson Configuration dialog box and the exact problem. This text should help you diagnose the problem. If you have difficulty understanding any message, report the exact message to your support organization.

**Note:** The above message may appear if both the parallel port and the USB port are connected to the printer at the same time. In this case, the parallel port is disabled by the USB port. To enable the use of the parallel port, unplug the USB connection at the printer. The printer will immediately process any page buffers.

`Warning - printer maintenance required (see printer panel)`

`Warning - printer ink cover open`

`Warning - printer bin 1 paper low`

`Warning - printer bin 2 paper low`

`Warning - <ink name> ink low`

`Warning - <ink name> ink out`

`Paper jam`

`Ink out`

`Paper size /type check error`

`Paper eject error`

`Print head too hot`

`Paper too thick`

`Printer nozzle check error`

`Wrong ink cartridge`

`Printer busy printing through another interface`

`Printer cover open`

`Printer paper lever released`

`Paper out`

`Wrong paper type or paper type select not complete`

`Printer initializing`

Paper not cut  
 Printer paper set lever released  
 Printer ink cover open  
 Printer ink lever released  
 Printer is waiting for the ink to dry  
 Paper not straight

These messages are relayed directly from the printer and should also appear in the control panel of your printer. See the manual for your printer for details on how to respond to these error or status messages.

Unknown error (N) reported by printer

This message appears if the RIP is unable to recognize the error reported by the printer. A brief error message may appear in the Output Controller/Monitor dialog box, which may help you diagnose the problem. If necessary, report the error to your supplier for further details.

Unable to create file - "full path name of output file"

This message informs you that the RIP was unable to create an output file. The full path name of the file that it tried to create is specified within the quotation marks. Check that the file does not already exist and that the output folder is not read-only. You must also ensure that enough disk space is available.

Unable to create file using path "full path name of output file" and template "file name template"

This message informs you that the RIP was unable to create an output file due to a problem with the file path of the output file and the file name template. Check that all the specified directories in the full path name exist and are writable. If an earlier error message indicates that an invalid file name template was specified, you must enter a valid file name template in the Configure Device dialog box.

Job output for "job name", sent on <date> <time>

This message informs you that the RIP has finished sending the job to the printer. The job name is specified in quotation marks and is followed by the date and time at which the job was output.

Job output for "job name", filename "full path name of output file", finished on <date> <time>

This message informs you that the RIP has finished creating an output file. The job name and the full path name of the output file are specified in quotation marks, followed by the date and time at which the output file was closed.

Job output for "job name" is aborting - Printer will print data that it has already received.

This message can appear during printer output. It is not a separate error, only an indication of how the RIP and the printer are recovering from an error reported in an earlier message.

If the RIP aborted due to a problem with the parallel (LPT1) connection method, you may be prompted to retry or cancel the job. If this is the case, click **Cancel** to abort the job and then check that the printer is switched on and connected using the correct cable.

**Job output for "job name" is aborting**

This message can appear during the creation of an output file. It is not a separate error, only an indication of how the RIP is recovering from an error reported in an earlier message.

**Job output for "job name", aborted on <date> <time>**

This message informs you that the RIP has aborted output of the job to the printer. The reason for aborting the job should be reported in an earlier error message.

**Job output for "job name", filename "full path name of output file", aborted on <date> <time>**

This message informs you that the RIP has aborted the creation of an output file. The reason for aborting the job should be reported in an earlier error message.

**Job output for "job name" using path "full path name of output file" and template "file name template", aborted on <date> <time>**

This message informs you that the RIP has aborted the creation of an output file. The reason for aborting the job should be reported in an earlier error message.

**Printer maintenance tank full**

Each time you perform nozzle cleaning cycles after changing ink sets, the excess ink is captured in the printer maintenance tank. This error message appears when the printer maintenance tank is full. In this case, the current job is aborted. You should either empty the printer maintenance tank or replace it.

**Printer maintenance tank removed**

This warning appears when the printer maintenance tank used for collecting excess ink has been removed. In this case, the current job is suspended until the printer maintenance tank is replaced.

**Maintenance tank remaining *nn*%**

Stylus Pro printers have a maintenance tank for collecting waste ink. When the tank is 50% full, a warning message is issued. If the tank becomes too full the printer may stop printing altogether.

**Printer ejects paper before completing a page**

This behavior is normal after the RIP has detected an error and displayed a warning message.

Otherwise, this behavior is rare but may occur when using a Microsoft Windows platform and a parallel port to drive the printer. It may be due to the mode set for the parallel port, the printer cable, or some interaction between these items. Reset the printer before retrying the same page. If the problem persists, check the mode set for the port in the computer's BIOS: do not use EPP mode, particularly if you have a RIP security dongle attached to the same port. If the port is also in use for a dongle, move the printer to another parallel port. Finally, try a new bidirectional parallel printer cable.

**Poor or erratic image quality**

Try to localize the problem. If there are any error or warning messages look at their causes and try the associated cures. If there are no messages, start by printing any test pages available on the printer itself, perhaps from a test or diagnostic menu. If the problem is not

present in any of these tests, there is likely to be some problem or inappropriate setting in the page setup.

### No output

Make sure that you are sending output to a printer that is properly connected, powered up, supplied with ink and media, and ready to receive data. Confirm that the printer itself is working by printing a test page, alignment test, or similar printer-based function.

### Output appears clipped

When printing using large paper sizes or high resolutions a VM Error may occur. Some jobs may suppress the VM Error and print using the default page size specified in the Page Layout dialog box, so that the output appears clipped. If this occurs we recommend that you increase the Band size in the Configure RIP options dialog box to 1024 KB.

### PhotoInk color management fails to preserve 100% process black

When using a PhotoInk device type, the **Preserve 100% process black** color setup option may not be honored. To prevent black from being color managed in this instance, you should add a page feature to your page setup, which runs the following PostScript:

```
<</ReuseColorChains false>> setsystemparams
```

If necessary, refer to the *Torrent User's Guide* for details on creating and using page features.

## D.1.2 File naming messages

This section details possible error messages that may appear in the RIP monitor window due to the use of incorrect file name templates (see Appendix A, "Output File Naming"). Suggestions are given to prevent these errors.

All messages are prefixed with the text: **File name generation error:**

#### Filename too long for target platform

This message appears when the combined file name stem and extension are too long for the target platform. For example, the combined length of the file name stem and extension must not exceed 255 characters on a Windows platform or 31 characters on a Macintosh platform. To prevent this error, use truncated tags, as shown in the example for the `<dos>` tag in Section A.3 on page 28.

#### File stem too long for target platform

This message appears when the file name stem is too long for the target platform. To prevent this error, restrict the length of the stem by reducing the fixed text, or by using truncated tags. The example for the `<dos>` tag in Section A.3 on page 28 demonstrates truncation.

#### Extension too long for target platform

This message appears when the file name extension is too long for the target platform. For example, file names in UNIX are not considered to have a separate file name extension. If using the `<dot>` tag in conjunction with the `<unix>` tag this error would be generated. To prevent this error create a template such as `<unix><jobname>.epf` rather than using the `<dot>` tag.

**Full pathname too long for target platform**

This message appears when the full path name (combination of the file path and the file name) is too long for the target platform. For example, in Windows operating systems the full path name must not exceed 259 characters. To prevent this error, examine the number of characters in the **Browse folders** file path (for example, C:\Program Files\HighWater Designs\Torr7.2\RIP\FILES\ ) and create a template in which the combined length of the file path and the file name do not exceed the limit for the platform.

**The folder name/path was not supplied**

This message appears when the file path is not specified in the **Browse Folders** text box within the Epson Configuration dialog box. To prevent this error, provide a valid file path.

**Unknown tag found in template**

This message appears when an unknown tag is found in the template. This is most likely due to a spelling error.

**Template contains an incomplete tag**

This message occurs when the opening and closing brackets of a tag are missing, that is < or > is missing.

**Filename Template resulted in a null filename**

This message occurs when the template only contain characters that are not allowed in the file name on the relevant platform.

**Tag delimiter mismatch in template**

This message appears when a tag delimiter, either < or >, is missing from a tag. Check that all tags have both delimiters.

**An extension is required but not found**

This message appears when a file extension is expected but is not specified in the template. For example, if using the <dot> tag, a file extension must be given.

**File requested is not writeable**

This message appears when trying to write to a file that already exists and that has read-only access. If you wish to overwrite the file, then you must change the file permissions to provide write access.

**Unique name requested but all names are in use**

This message appears when no further unique numbers are available. For example, if using the template stem<1unique><dot>epf, this error would occur once the file names stem1.epf through stem9.epf had been generated, because no further unique numbers are available.

### D.1.3 Post processing messages

This section details possible messages that may appear during post processing (see Appendix B, "Post Processing").

**Running post processing command "*command*" in folder "*folder name*"**

This is a progress message, confirming the command that is being run, and the working directory.

**Post processing command failed - Cannot change directory to "*directory path*"**

This error message appears when there is a problem changing to the specified directory that prevents the completion of the post processing. Check that the directory exists and that you have permission to access the directory.

**Post processing command failed - "*status value*"**

This error message appears when the post processing has been unsuccessful. The "*status value*" is the error code generated by the command or shell you are using and can be used by your system administrator to determine the exact cause of the post processing failure.

### D.1.4 Miscellaneous messages

The following is a general list of error messages or warnings that may appear in the RIP monitor window:

**%%[ Error: rangecheck; OffendingCommand: get ]%%**

This message may appear if you try to use a 1-bit device type without first enabling the HEDS1 screening plugin.

To prevent this error, ensure you enable the HEDS1 plugin, as described in Section 1.4 on page 7, before using a 1-bit device type.

**%%[ Error: VMerror; OffendingCommand: pagedevice ]%%**

When printing using large paper sizes or high resolutions a VM Error may occur. Some jobs may suppress the VM Error and print using the default page size specified in the Page Layout dialog box, so that the output appears clipped. If this occurs we recommend that you increase the Band size in the Configure RIP options dialog box to 1024 KB.

**%%[Error: undefinedfilename; Offending Command: run]%%**

This error message appears if you have created a device type using a name similar to the name of the device type on which it is based. If you use the same text to name the new device as that used to label the device type, you must match the use of lowercase and uppercase characters in the device type label. To prevent this error, open the Device Manager, select the device and click **Edit**. In the Device Manager Edit dialog box, change the name of the device to something completely different.

**%%[Warning:Error running file <file name>]%%**

This warning appears if there is a PostScript error in the named file. In such cases, the job will be processed as if the file does not exist.

**%%[Error occurred in profile hook <file name>]%%**

This warning appears if there is a PostScript error in the named profile hook file. The job is aborted when such an error occurs.

**\*\*\*\*\*WARNING: Insufficient working set may result in paging and performance may be affected**

**\*\*\*\*\*Try logging on as a Power User or reducing the memory allocated to the RIP**

This message may occur when using the RIP running on either Windows NT with service pack 6 or 6a or Windows 2000. It is due to the way these operating systems deal with memory requests.

You can ignore the warning message because performance is not affected in this case. If you wish to remove this error message, two possible solutions exist. You can revert back to using service pack 5 if you are working on Windows NT. Alternatively, you can reduce the amount of memory available to the RIP. This may, however, affect the performance of the RIP, depending on the total amount of memory that you have available.

**Wrong data format for device (Depth *N* vs *N*, Channels *N* vs *N*)**

This message can appear if you attempt to output a page buffer generated for a 2-bit device type to a biplane device type, or vice versa. The RIP displays this error and disables output in the Output Controller/Monitor dialog box.

If you wish to output the page buffer, select it from the **Active Queue** list and click **Info** to change the **Output device** to either a 2-bit or biplane device type, depending on the device that the page buffer was originally created for. Deselect the **Disable output** check box to enable output.

Alternatively, you can delete the page buffer by selecting it and clicking **Remove**.

This error also occurs when you attempt to send pre-separated jobs to a separating workflow. In this case, the error message will show that the channel has been mismatched, for example:

`Channels 1 vs 4, OR`

`Channels 1 vs 6, OR`

`Channels 1 vs 7, OR`

`Channels 1 vs 8`

To resolve this, you should either choose to recombine pre-separated jobs, or reject them. In the latter case, a second page setup can be created using a monochrome colorspace for use with pre-separated jobs.

**%% [ Error: ioerror; Offending Command: setscreen ] %%**

This message can appear if you try to use HDS screens listed in the Edit Style dialog box before enabling the use of HDS or HDS light. In this case, you must enable HDS or HDS light in the Configure RIP Extras dialog box and then re-submit your job.

## D.2 Problems with passwords

If you have problems enabling a device or option you should confirm with your supplier the password or password file. They may provide you with a new password or password file. If this is the case, you may need to provide the serial number of your RIP. The RIP displays this number in the RIP monitor window when starting up, in the form:

`Serial number: 1234-56`

You must also tell your supplier the *platform* for which you require the password or password file. The platform is the combination of operating system and processor type. For example, you might specify Windows 2000, and Intel processor (CPU).

Once you have a valid password or password file, follow the relevant steps:

**Password file** Copy the password file into the `passwords` folder, which is a subfolder of the `sw` folder. See the *Torrent User's Guide* for further details.



**Password**      Use the **Torrent > Configure RIP** menu option to display the Configure RIP dialog box. Click the **Extras** button in the Configure RIP dialog box to display the Extras dialog box. Select the entry for the device or option that you wish to add, and click **Add** to display the Enable Feature dialog box. Enter the password given to you by your supplier, and click **OK**.