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# ProofReady Plugin for HP DesignJet 120 Series

Version 1.0r1

January 2007



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*ProofReady Plugin for HP DesignJet 120 Series*

Version 1.0r1

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# ProofReady Plugin for HP DesignJet 120 Series

## 1. Introduction

This manual provides information for the HP DesignJet 120 ProofReady plugin and how to use it in the Torrent RIP. The plugin adds several new devices for common paper types and typical output resolutions. The plugin also adds colour and calibration profiles to the RIP for 'out-of-the-box' colour management, hence the name *ProofReady*.

### Summary of plugin features

- Devices for common paper types and print resolutions.
- ProofReady profiles for instant colour management.
- Calibration profiles for common paper types and resolutions.
- Support for various halftone screens, including optional preview.
- Range of print quality settings.
- Support for post processing operations.
- Output direct to printer, file, or network.

### 1.1 System requirements

The following system resources are required to install and operate the plugin:

#### Windows

- Intel Pentium processor.
- Microsoft Windows NT with Service Pack 6a, Windows 2000 with Service Pack 2, Windows XP Professional or Home Edition.
- 128 megabytes (MB) of RAM (256 MB recommended for variable sized dot devices).
- 10 MB of available hard disk space *after* installing the plugin.
- Connection interface, either:
  - IEEE 1284-compliant bidirectional parallel port. Check your BIOS is set to use bidirectional mode.
  - HP JetDirect 615n 10/100Base-TX print server supporting TCP/IP, AppleTalk, DSL/LLC and IPX/SPX protocols.
  - USB 1.1 (USB 2.0 compliant)

**Macintosh**

- PowerPC G3 processor (Mac Intel is not supported).
- Mac OS X v.10.2.4 or later.
- 32 MB of RAM with virtual memory on (64 MB recommended).
- 70 MB of available hard-disk space *after* installing the plugin.

**Torrent RIP**

- Torrent RIP v.5.5r1c (or later), or v6.0 (or later).
- 4 MB or more for the printer buffer.
- 10 MB or more for the system.

## 2. Installing the plugin

The HP DesignJet 120 plugin needs to be installed and enabled in the Torrent RIP before it can be used. Depending on how the plugin has been supplied and the RIP you are running, see the relevant section for the correct installation method.

### 2.1 Installing the plugin using the product installer (for v6.0 RIPs)

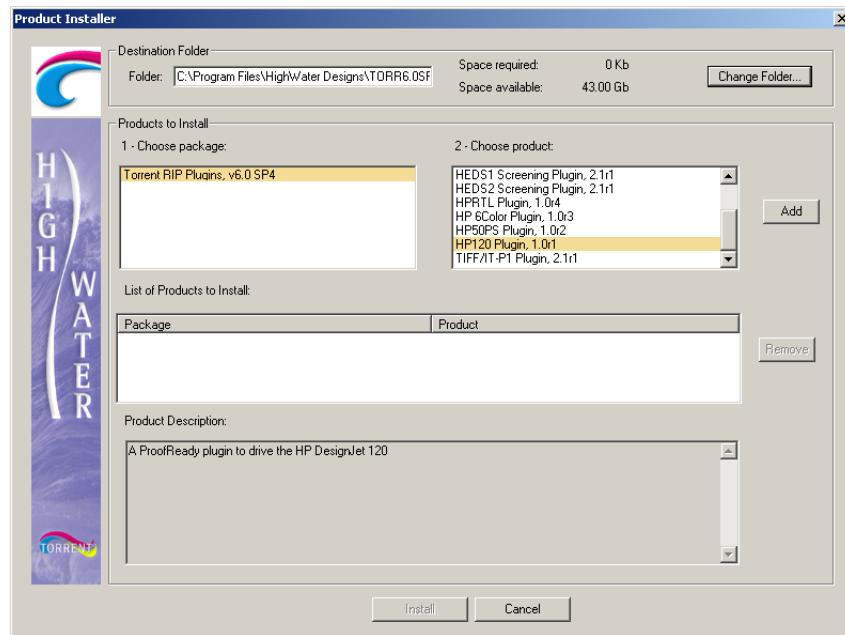
Follows these instructions to install the HP DesignJet 120 printer plugin from HighWater's Press-Press Solutions CD 3.

Before you begin, refer to Table 4.1 on page 17 for a list of the devices added by the plugin and the halftone screens each device supports. For optimum output quality, ensure the screening plugins used by the devices are installed and enabled in the RIP.

To install the plugin:

1. Before you install the plugin, make sure that the Torrent RIP is already installed and that you have *administrator* privileges.
2. Shut down the Torrent RIP if it is running.
3. Insert Pre-Press Solutions CD 3 into the CD-drive. The CD's web interface launches automatically in your browser and provides a full list of the CD's contents.
4. Scroll down to the **Proofing Plugins** section and click on either the Windows or Mac icon, depending on which platform you are installing on.
5. On the next screen, scroll down to the **HP ProofReady Plugin v1.0r1 for HP DesignJet 120** option, and click on the link to install the plugin(s).
6. Next, a 'File Download' dialog appears. Select either **Run this program from its current location** and click on **OK**, or click on the **Open** button. (If you see a security warning, click on the **Yes** button.)

7. Next, the Product Installer is displayed:



8. You need to tell the Installer where the RIP is located. In the Destination Folder panel, click on the **Change Folder...** button and select the folder where the Torrent RIP is installed, then click on **OK**.
9. In the 'Choose package' list, highlight **Torrent RIP Plugins, v6.0 SP4**.
10. In the 'Choose product' list select each of the following options and click the **Add** button:
  - HP120 Plugin, 1.0r1**
  - HEDS1 Screening Plugin, 2.1r1**
  - HEDS2 Screening Plugin, 2.1r1**
11. The three selected products appear in the 'List of Products to Install' window:

Package	Product
Torrent RIP Plugins, v6.0 SP4	HP120 Plugin, 1.0r1
Torrent RIP Plugins, v6.0 SP4	HEDS2 Screening Plugin, 2.1r1
Torrent RIP Plugins, v6.0 SP4	HEDS1 Screening Plugin, 2.1r1

12. Click on the **Install** button. The installer now installs all the plugins (it will tell you when it has finished).
13. Next, start the Torrent RIP and click **Torrent > Configure RIP > Extras** to open the RIP Extras window.
14. From the list, select **HP, DesignJet 120 Series** and click **Add**. Enter your password and click **OK** to enable the plugin.
15. If necessary, enable the appropriate screening plugins as well.
16. Select **Harlequin ColorPro** (in v6.0 RIPs) or **HIPP** (in v5.x RIPs) from the plugin list and enable this plugin as well. Torrent ColorPro and HIPP allow you to use the ProofReady colour profiles supplied by the plugin, for instant colour management in your jobs.

## 2.2 Installing the plugins manually into the RIP (for v5.x RIPS)

Follow these instructions to manually install the HP DesignJet 120 plugin and screening plugins into the Torrent RIP. Before you begin, refer to Table 4.1 on page 17 for a list of the devices added by the plugin and the halftone screens each supports. For optimum output quality, ensure the relevant screening plugins are installed and enabled in the RIP.

1. Shutdown the Torrent RIP if it is running and, using Windows Explorer, locate the **hp120** folder in the HP DesignJet 120 plugin files on the Pre-Press Solutions CD3.
2. Copy the **hp120** folder to:

...\<RIP folder>\SW\Devices\

**Note:** You can find the **hp120** folder in the following location on the CD:

**For Intel platforms:**

[CD Drive]\Torrent\_Plugin\_Installers\TorrentSP4Plugins\  
Plugins\Output\HP120\1.0r1\Final\win\_32-pentium\rel\hp120

**For Mac OSX:**

[CD Drive]\Torrent\_Plugin\_Installers\TorrentSP4Plugins\  
Plugins\Output\HP120\1.0r1\Final\macos\_x-ppc\rel\hp120

3. Add the screening plugins as follows (these may already be installed— there is no need to install them if they are):

**HEDS1 screening**

- Add the **HEDS1** folder to:

...\<RIP folder>\SW\Screenin

- Add **HEDS1\ExtraStart\HEDS1Init** to:

...\<RIP folder>\SW\Sys\ExtraStart

**Note:** You can find the **HEDS1** folder and **HEDS1Init** file in the following locations on the CD:

**For Intel platforms:**

[CD Drive]\Torrent\_Plugin\_Installers\TorrentSP4Plugins\  
Plugins\Screening\toothpick\2.1r1\Final\win\_32-pentium\rel\HEDS1  
[CD Drive]\Torrent\_Plugin\_Installers\TorrentSP4Plugins\  
Plugins\Screening\toothpick\2.1r1\Final\win\_32-pentium\rel\HEDS1\  
ExtraStart\HEDS1Init

**For Mac OSX:**

[CD Drive]\Torrent\_Plugin\_Installers\TorrentSP4Plugins\  
Plugins\Screening\toothpick\2.1r1\Final\macos\_x-ppc\rel\HEDS1  
[CD Drive]\Torrent\_Plugin\_Installers\TorrentSP4Plugins\  
Plugins\Screening\toothpick\2.1r1\Final\macos\_x-ppc\rel\HEDS1\  
ExtraStart\HEDS1Init



**HEDS2 screening**

- Add the HEDS2 folder to:

...\<RIP folder>\SW\Screenin

- Add HEDS2\ExtraStart\HEDS2Init to:

...\<RIP folder>\SW\Sys\ExtraStart

**Note:** You can find the **HEDS2** folder and **HEDS2Init** file in the following locations on the CD:

**For Intel platforms:**

[CD Drive]\Torrent\_Plugin\_Installers\TorrentSP4Plugins\  
Plugins\Screening\toothpick\2.1r1\Final\win\_32-pentium\rel\HEDS2

[CD Drive]\Torrent\_Plugin\_Installers\TorrentSP4Plugins\  
Plugins\Screening\toothpick\2.1r1\Final\win\_32-pentium\rel\HEDS2\  
ExtraStart\HEDS2Init

**For Mac OSX:**

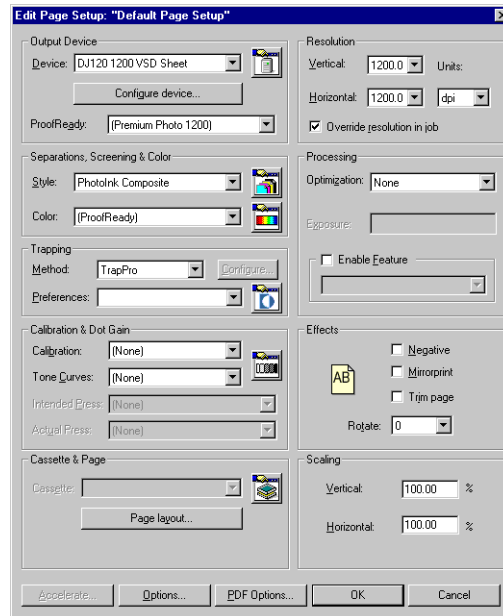
[CD Drive]\Torrent\_Plugin\_Installers\TorrentSP4Plugins\  
Plugins\Screening\toothpick\2.1r1\Final\macos\_x-ppc\rel\HEDS2

[CD Drive]\Torrent\_Plugin\_Installers\TorrentSP4Plugins\  
Plugins\Screening\toothpick\2.1r1\Final\macos\_x-ppc\rel\HEDS2\  
ExtraStart\HEDS2Init

4. When you have copied the plugins, start the Torrent RIP and click **Torrent > Configure RIP > Extras** to open the RIP Extras window.
5. From the list, select **HP, DesignJet 120 Series** and click **Add**. Enter your password then click **OK** to enable the plugin.
6. If necessary, enable the appropriate screening plugins as well.
7. Select **Harlequin ColorPro** (in v6.0 RIPs) or **HIPP** (in v5.x RIPs) from the plugin list and enable this plugin as well. ColorPro and HIPP allow you to use the ProofReady colour profiles supplied with the plugin for instant colour management in your jobs.

### 3. Processing jobs with page setups

Jobs are processed by the Torrent RIP using “page setups”. Each page setup contains your settings for device type, resolution, colour management, calibration, as well as a range of other options that are applied by the RIP when the job is processed.



**Figure 3.1** Torrent v6.0 Page Setup window

You may create as many page setups as you need to meet your job processing requirements. Depending on the RIP version you have installed, refer to the relevant setup instructions below.

#### 3.1 Creating a page setup in Torrent v6.0

1. In the Torrent RIP, click **Torrent > Page Setup Manager**, or use the shortcut key **Ctrl+S** to open Page Setup Manager.
2. Click **New** to create a new page setup, or **Edit** if you already have one that you want to amend.

3. In the Page Setup dialog box, select the following options to configure your page options correctly:
  - **Device**—Choose a device type to suit your output resolution and screening type. Table 4.1 on page 17 lists the devices installed by the plugin. See also “Configuring HP DesignJet 120 devices” on page 14 for details on choosing your own output settings in a device.
  - **ProofReady**—Choose a colour management ProofReady profile from the list, for example, (HP Heavy Coated 600) for HP Heavyweight Coated Paper based on a resolution of 600 x 600 dpi. See Table 4.2 on page 18 for a list of available profiles. The resolution will be automatically selected to suit the profile.
  - **Style**—This option is automatically selected to suit the chosen device and, among other things, controls the halftone screening method used by the plugin. To change the default screen used when a job is processed, open the Separations Manager (**Output > Separation Manager**) and edit the required separation and specify the screening method in **Dot Shape**.
  - **Color**—This option is chosen automatically to suit the ProofReady profile that has been selected. Choose **None** if you wish to use a colour profile you have created yourself.
  - **Calibration**—Set this to (**None**), since calibration is automatically controlled by the selected ProofReady profile. For optimum results, create your own calibration profile and select it from the list. See “Calibrating the printer” on page 27 for details.
4. Click **Page Layout** and choose the media size installed in the printer. If the job is an EPS file, or the job does not contain page size information (most do), set the page size as well. If necessary, you can adjust position of the page on the media by adjusting the settings for the top, bottom and side margins. For more information on page layout see, “Setting media and page sizes with Page Layout” below.
5. Click **Save As** to save your page setup with a name of your choice. Your new page setting will be listed in the Page Setup Manager. Click **OK** to close the Manager or create another page setup.

You can now output to the HP DesignJet 120 printer using the new page setup.

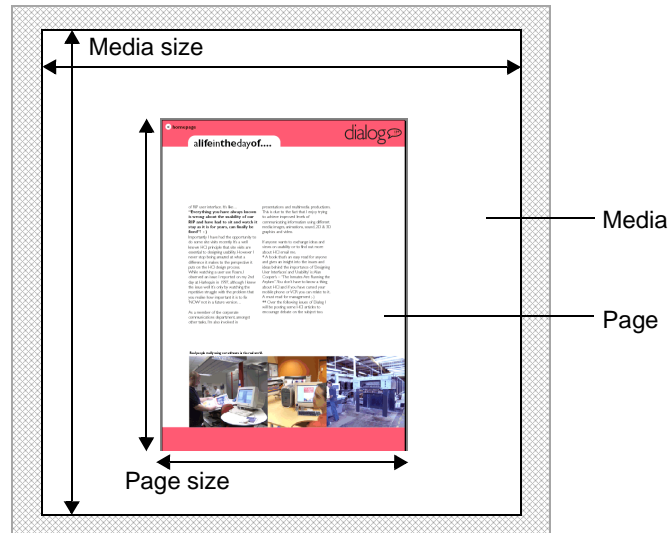
## 3.2 Creating a page setup in Torrent v5.x

1. In the Torrent RIP, click **Torrent > Page Setup Manager**, or use the shortcut key **Ctrl+S** to open Page Setup Manager.
2. Click **New** to create a new page setup, or **Edit** if you already have one that you want to amend.

3. In Page Setup, select the following options to configure your page options correctly:
  - **Device**—Choose a device type to suit your output resolution and dot type. Table 4.1 on page 17 lists the devices installed by the plugin. See also “Configuring HP DesignJet 120 devices” on page 14 for details on choosing your own output settings in a device.
  - **Resolution**—Select the output vertical and horizontal resolution settings.
  - **Style**—This option is automatically selected to suit the chosen device and, among other things, controls the halftone screening method used by the plugin. To change the default screen used when a job is processed, open the Separations Manager (**Output > Separation Manager**) and edit the required separation and specify the screening method in **Dot Shape**.
  - **Color**—This option should be set to (**None**) since colour is managed by the calibration set. If you want to use your own colour profile, see “Creating a HIPP or ColorPro colour setup” on page 30 and choose it from the list.
  - **Calibration**—Select a profile that matches the correct paper type and output resolution. For example, (**HP Heavy Coated 600**) is a profile for HP Heavyweight Coated Paper based on a resolution of 600 x 600 dpi. See “Colour Management with ProofReady profiles” on page 18 for a list of profiles supplied with the plugin.
4. Click **Page Layout** and specify the media width and height of the media installed in the printer. If the job is an EPS file, or the job does not contain page size information (most do), set the page size as well. If necessary, you can adjust position of the page on the media by adjusting the settings for the top, bottom and side margins. For more information on page layout see, “Setting media and page sizes with Page Layout” below.
5. Click **Save As** to save your page setup with a name of your choice. Your new page setting will be listed in the Page Setup Manager. Click **OK** to close the Manager or create another page setup.

### 3.3 Setting media and page sizes with Page Layout

The options in Page Layout are used to specify your media size and page size when not defined in the job itself. Page size refers to the 'frame' into which the job is printed; media size refers to the size of the paper installed in the printer. To prevent clipping of your print, the page size must not exceed the media size.



**Figure 3.1** Media and page sizes

In most jobs the page size has been defined in the page design and embedded in the PostScript language file. The page size in Page Layout has no effect on these types of jobs. In EPS files, or other jobs where page size is not defined, you must select the correct page size from those listed in Page Layout.

When changing the margins be careful not to increase the margins beyond the limit of the media. Setting a value for the bottom margin beyond the media size on sheet fed devices will result in a loss of printable space on the media.

### 3.4 Outputting to a Windows print server

Where the plugin is running on a Windows PC, output from the plugin may be transferred to a Windows print server operating under the control of the Windows' printer spooler (refer to your operating system manual for the benefits of using a Windows print server to manage output).

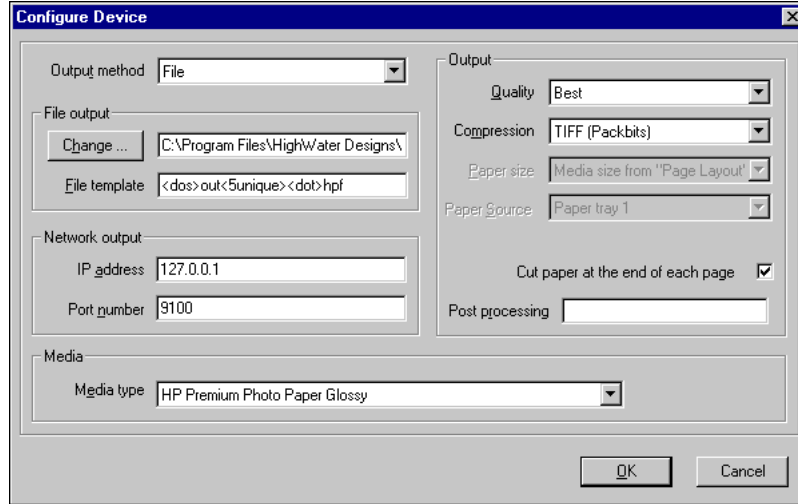
Macintosh users can also use a Windows print server by directing output to a Windows PC and then moving the files to the print server. This indirect approach is necessary since Macs do not support direct output to a printer.

#### To configure a device to use a print server

1. Open the Configure Device dialog box for the device you want to configure, see "Configuring HP DesignJet 120 devices" on page 14 for instructions.
2. Set the output method to **File**.
3. Enter the name of the print server in File Output, for example `\\PCPrintserver`.
4. Click **OK** to close the window, or set your other device preferences and then click **OK**.

## 4. Configuring HP DesignJet 120 devices

The devices installed by the plugin can be configured to suit your output preferences using the options in the Configure Device window. It is not usually necessary to reconfigure a device unless you are outputting directly to the printer, or need to change the output quality or add post processing commands.



**Figure 4.1** The Configure Device window

To configure a HP DesignJet 120 device, do the following:

1. In the Torrent RIP, click **Torrent > Page Setup Manager**, or use the shortcut key **Ctrl+S** to open the Page Setup Manager.
2. Click **New** to create a new page setup, or **Edit** if you already have one that you wish to amend.
3. With the appropriate device selected, click **Configure Device** to open the Configure Device window, which is shown in Figure 4.1 on page 14. The following device configuration options are available:

### Output method

Select the output method from the following choices:

<b>File</b>	(Default option). Output is saved to the location specified in the <b>File output</b> option, and named according to the settings in <b>File template</b> .
<b>Network</b>	Select this option if using the JetDirect network card. <b>IP Address</b> and <b>Port number</b> should also be specified when <b>Network</b> is selected.
<b>LPT1</b>	Select this option if you are connecting via a parallel port.
<b>USB</b>	Select this option if you are connecting via USB.

### File output

This option can be used to set the output location when **File** is selected as the output method. On a PC you can transfer the output file to the printer using the Windows print spooler. To do this, install the HP printer drivers on a PC acting as the print server then

enter the name of the print server in **File Output**. For more information see, “Outputting to a Windows print server” on page 13.

#### File template

This option allows you to use tags to construct the name of the output file. For example, `<dos>out<5unique><dot>hpf` produces `out00001.hpf`, `out00002.hpf`. See Table 4.4 on page 20 for a complete list of permitted tags.

#### IP address

This option can be used to set the IP address of the printer when **Network** is selected as the output method.

#### Port number

This option can be used to set the port number when **Network** is selected as the output method. The printer supports the following ports:

- **Port 515:** Sets the LPR protocol when using the JetDirect network card. Note that the LPR protocol does *not* provide bidirectional communication with the printer. Consequently, the printer cannot report error messages when using this protocol.
- **Port 9100:** Sets the JetDirect protocol when using the JetDirect network card. Select 9100 if you are using an external print server. Some external print servers can drive several printers simultaneously. In this case the different physical connections or ports have their own numbers (which may vary with the type of server). For example, on an external unit with three output ports, the physical ports named 1, 2, and 3 have port numbers 9100, 9101, and 9102.

#### Quality

This option can be used to specify print output quality. For information on the quality setting and the effect it has on your printed output, refer to your printer manual. The following quality options are available:

- **Best:** (Default) Highest print quality but slowest print speed. This is the recommended setting to use for the supplied profiles.
- **Normal:** Standard output quality with medium print speed.
- **Fast:** Lowest print quality but fastest print speed.

#### Compression

This option can be used to specify the encoding method used when data is sent to the printer, which can affect the transfer rate for data sent to the printer. The plugin supports two compression modes:

**None** Data is transferred uncompressed, resulting in longer data transfer times to the printer.

**TIFF (Packbits)** Data is sent compressed, resulting in faster transfer times to the printer without any loss in print quality.

#### Paper Size

This option can be used to select the paper size installed in the printer. Included in the list are the most common paper sizes supported by the printer. To add your own custom

paper size, access the Edit Page Setup dialog and click the **Page Layout** button and enter your paper dimensions. Then, in the Paper Size option choose **Media size from "Page Layout"** to use your new settings.

Clipping may occur if the paper size is changed in a page setup that uses a custom paper size. The position of the printed image on the page can be controlled using with page layout options, as described on page 13.

### Paper Source

This option can be used to select the printer's paper bin source. The following options are available:

**Paper tray 1** Sets the paper source to Paper tray 1

**Manual feed front**  
Sets the paper source to manual feed from the front of the device.

**Manual feed rear**  
Sets the paper source to manual feed from the rear of the device.

**Auto select** Automatically selects the paper source that contains the paper size specified in the Device Configuration dialog box. If the specified paper size is unavailable an appropriate alternative will be chosen automatically.

### Post processing

Note: This option is *not* supported on Macintosh computers

This option can be used to specify commands that will be executed after a job has been processed. For example, you may wish to change the format of the output file or generate a report. For full details see "Post processing operations" on page 24.

### Media type

This option can be used to select the media installed in the printer. It is important that this option is set correctly, since it determines the inking regime and media optimization used by the plugin.

## 5. Devices

The HP DesignJet 120 plugin adds several new devices to the Torrent RIP for selection in your page setups. Two devices types are supported:

- 'SD' devices print a fixed dot size: small or large dot. Dot sizes *cannot* be mixed on the same page.
- 'VSD' devices print a variable dot size: small, medium and large dot. Dot sizes *can* be mixed on the same page.



Your choice of device type will mostly depend on the halftone screening method that you prefer to use. See the table, “Devices installed by the plugin” on page 17 for a list of the screen types supported by each device. A description of each screening method can be found in the table, “Halftone screens supported by the HP DesignJet 120 plugin” on page 19.

**Warning:** Output quality may be impaired if the appropriate screening plugin used by a device is not enabled in the Torrent RIP. See “Installing the plugin” on page 6.

Device	Dot type	Screening modes	Colour modes
DJ120 1200 SD Roll or Sheet	Small dot size	<b>HDS Super Fine</b> , HDS Fine, HDS Medium, HDS Coarse, HDS Super Coarse, HEDS1, Round	PhotoInk Composite (CMYKcm)
DJ120 1200 VSD Roll or Sheet	Variable dot sizes (small, medium and large)	<b>HEDS2</b>	PhotoInk Composite (CMYKcm)
DJ120 600 SD Roll or Sheet	Medium dot size	<b>HDS Super Fine</b> , HDS Fine, HDS Medium, HDS Coarse, HDS Super Coarse, HEDS1, Round	PhotoInk Composite (CMYKcm)
DJ120 600 VSD Roll or Sheet	Variable dot sizes (small, medium and large)	<b>HEDS2</b>	PhotoInk Composite (CMYKcm)
DJ120 300 VSD Roll or Sheet	Variable dot sizes (small, medium and large)	<b>HEDS2</b>	PhotoInk Composite (CMYKcm)

**Table 4.1** Devices installed by the plugin

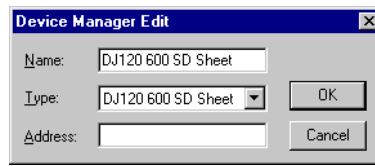
## 5.1 Adding new print devices

Depending on how the plugin has been supplied, the plugin may not list all the print devices it is capable of using. If this is the case, you can add the device you wish to use through the Device Manager.

### To add a new print device

1. In the Torrent RIP, click **Torrent > Device Manager** to open the Device Manager window.
2. From the **Plugin** list, select **hp120.i32** (hp120 on Mac OS X), and then click **New** to open the Device Manager Edit dialog box, shown in Figure 5.1.
3. From **Type**, select the device you want to add.
4. In **Name**, enter a name for the new device. It is standard practice to use the *same* name as that used for the device type, but you *must* use the same combination of upper and lower characters, so as not to cause issues when the device is used.
5. There is no need to enter anything in the **Address** box.

6. Click **OK** to close the dialog box, and click **OK** to close the Device Manager window.



**Figure 5.1** The Device Manager Edit dialog box

The new device is added to the RIP and is available for selection in your page setups.

## 6. Colour Management with ProofReady profiles

The HP DesignJet 120 plugin is supplied with ProofReady profiles for ‘out-of-the-box’ colour management. The profiles ensure output is colour accurate for the output resolution and paper type installed in the HP DesignJet 120 printer. ProofReady profiles are supplied for each of the devices installed by the plugin, as listed in Table 4.2, below.

Before you can select a profile, you must enable colour management in the RIP by adding and enabling Torrent ColorPro in v6.0 RIPs, or HIPP in v5.x RIPs. See “Installing the plugin” on page 6 for details on how to do this.

ProofReady Profile	Device	Paper type & HP Media No.	Resolution
Bright White 300	DJ120 300 VSD	Bright white inkjet paper – C1825A	300
Heavy Coated 300	DJ120 300 VSD	Heavyweight Coated Paper – C6029C	300
Coated Paper 600	DJ120 600 VSD	Coated paper – C6019B	600
Proofing Gloss 600	DJ120 600 VSD	Proofing gloss paper – Q1965A	600
Premium Photo 600	DJ120 600 VSD	Premium photo paper – C6040A	600
Proofing Semi-Gloss 600	DJ120 600 SD DJ120 600 VSD	Proofing semi-gloss paper – Q1966A	600
Heavy Coated 600	DJ120 600 VSD	Heavyweight Coated Paper – C6029C	600
Premium Photo 1200	DJ120 1200 SD DJ120 1200 VSD	Premium photo paper – C6040A	1200

**Table 4.2** Supplied ProofReady profiles and the paper types supported

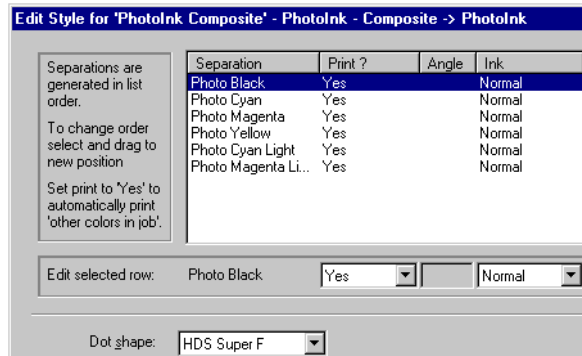
### 6.1 Changing the default screening method

Each HP DesignJet 120 device installed by the plugin uses a ‘preferred’ screening method that has been chosen by the Torrent RIP colour specialist to give the optimum output quality for the paper type and output resolution.

Table 4.1 on page 17 lists the screening method(s) each device can use, with the default screen (the preferred one) highlighted in **bold**. You may, however, choose a different screening method if you feel this would produce better results for your jobs. Table 4.3 presents information on the various screen types supported by the plugin.

If you need to change the default screening method, do the following:

1. In the Torrent RIP, open the Separations Manager by clicking **Color > Separations Manager**. From Device list, select the device you want to change.
2. From the list of styles for a device (often there will be just one), select the style and click the **Edit** button. The Edit Style for... dialog box opens, shown in Figure 6.1.



**Figure 6.1** The Edit Style for... dialog box

3. From the dot shape list, select the screen you want to associate with the style and click **OK** to set your choice.
4. Click **OK** to close the Separations Manager and save your new settings. From now on, each page setup which uses the selected device will now use the new screening method.

Halftone screen	Device Availability	Description
Round	Single dot devices (SD)	An amplitude modulation (AM) screen that uses round dots. Dot gain can be a problem in the shadow areas since the white diamond at the center of four adjoining circles can easily become filled with black as the dot size grows. However, round dots give a smooth appearance in the highlights and middle tones.
HEDS1	Single dot devices (SD)	Harlequin 1-bit Error Diffusion Screening (HEDS1) is a frequency modulated (FM) screening method that is particularly suited to the production of proofs on inkjet printers. HEDS1 works particularly well at low resolutions because it does not use dot patterns and therefore produces prints that are free from the moire effect.  Screens are produced with a single dot size, either small, medium or large.
HEDS2	Variable sized dots (VSD)	Harlequin 2-bit Error Diffusion Screening (HEDS2) produces the highest quality output for inkjet printers.  Screens are produced with multiple dot sizes: small, medium and large.
HDS – Superfine, Fine, Medium, Coarse, Super Coarse	Single dot devices (SD)	Harlequin Dispersed Screening (HDS) provides better control, quality and performance than standard forms of screening.  The Medium, Coarse, and Super Coarse variants are only recommended as special effects screens.

**Table 4.3** Halftone screens supported by the HP DesignJet 120 plugin

## 7. Output File Naming

The **File Template** text box within the Configuration dialog box allows you to specify the automatic generation of an output file name using a template of fixed text and tags.

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 21 for further details.

Fixed text can be part of the file name stem or extension. For example, `stem_<3unique><sepname><dot>hpf` would generate a file name of the form: `stem_000Cyan.hpf`, 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 `.hpf` is a suggestion only and is formed from the initial letters of *HP Printer File*.

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

### 7.1 Content generating tags

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

**Table 4.4** Output file name tags

Tag	Description
<code>&lt;colorant&gt;</code>	The colour space of the device, such as <b>DeviceCMYK</b> or <b>DeviceRGB</b> .
<code>&lt;colorname&gt;</code>	The name of the separation, such as <b>Cyan</b> .
<code>&lt;compression&gt;</code>	The form of compression used, such as <b>Packbits</b> .
<code>&lt;date&gt;</code>	The date when the job is processed, in the format <b>YYYYMMDD</b> , unless a truncated form is specified.
<code>&lt;dot&gt;</code>	Separates the stem of the file name from the file extension, and appears as a period character ( . ) in the file name. For example <code>stem&lt;dot&gt;ext</code> appears as <b>stem.ext</b> . The use of the <code>&lt;dot&gt;</code> tag enables the verification of the stem and extension lengths.
<code>&lt;job#&gt;</code>	The job number allocated by the RIP. Automatic numbering means that successive jobs have incremental job numbers: 000, 001, 002, 003, and so on.
<code>&lt;jobname&gt;</code>	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.
<code>&lt;jobname1&gt;</code>	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.
<code>&lt;page#&gt;</code>	The page number (allocated by the RIP), within the current job. For example: 002.
<code>&lt;prefix&gt;</code>	The page number prefix from the page buffer name, such as <b>1.</b> , <b>2.</b> , and so on.
<code>&lt;quality&gt;</code>	The quality setting, such as <b>Best</b> .

**Table 4.4** Output file name tags (Continued)

Tag	Description
<b>&lt;time&gt;</b>	The time when the job is processed, in the 24-hour format <b>HHMMSS</b> , unless a truncated form is specified.
<b>&lt;unique&gt;</b>	A unique sequence number used to make every file different when placing output files in a folder.
<b>&lt;xres&gt;</b>	The horizontal resolution of the page, as specified in the page setup.
<b>&lt;yres&gt;</b>	The vertical resolution of the page, as specified in the page setup.

## 7.2 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 do not modify the file names generated, but cause error messages if the file name is invalid. See “Messages for file name templates” on page 35 for details.

For example, you can create the template **<dos>Averylongfilename<dot>hpf**, 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 4.5 lists the operating system tags.

**Table 4.5** Operating system tags

Tag	Description
<b>&lt;dos&gt;</b>	Verifies that the file name is a legal file name for the MS-DOS operating system.
<b>&lt;mac&gt;</b>	Verifies that the file name is a legal file name for the Macintosh operating system.
<b>&lt;unix&gt;</b>	Verifies that the file name is a legal file name for the UNIX operating system.
<b>&lt;win32&gt;</b>	Verifies that the file name is a legal file name for Windows operating systems: Windows 95, Windows 98, Windows NT, or Windows 2000.

## 7.3 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: Default CMYK + spot colors target

*Date:* 29th of January, 2003

*Compression:* Packbits Encoding

*Quality:* Best

**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 a page buffer file is output), multiple copies of the file are created. If the template contains just static tags (such as `<jobname>`, where the job name remains constant), a single output file is created because previous files are overwritten.

#### `<colorant>`

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

For example, the template `<colorant><dot>hpf` produces a file name of the form `DeviceCMYK.hpf` for a device using a CMYK colour space (4-colours) or a file name of the form `PhotoInk.hpf` for a device using a PhotoInk colour space (6-colours).

#### `<colname>`

The tag `<colname>` 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 `<1colname>`, which truncates the separation name to its first letter. If a composite style is used this is indicated by the string `Composite`.

#### `<compression>`

You can use this tag to include the form of compression used in the file name. For example, based on the job details above, the template `<compression><dot>hpf` produces the file name `Packbits.hpf`.

#### `<date>`

The template `<date><dot>hpf` produces the file name `20030129.hpf`. You can remove the year information by using the tag `<4date>` to produce the file name `0129.hpf`.

#### `<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 cause an error.

For example, the template `<dos><jobname><dot>hpf`, 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>hpf`, which produces the file name `Uncalibr.hpf`.

#### `<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>.hpf` would cause an error because the dot is removed as an illegal character and `hpf` 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 job number 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 Windows operating system, the template <jobname><dot>hpf produces the file name

Uncalibrated Target Default CMYK + spot colors target.hpf. 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>hpf produces the file name

UncalibratedTargetDefaultCMYKspotcolorstarget.hpf. The colon, white space, and '+' 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 Macintosh operating system. Illegal characters such as an asterisk, colon, and quotation marks cause an error. The maximum length of a file name is thirty-one characters (including the file extension).

For example, using the template <mac><28jobname><dot>hpf produces the file name Uncalibrated Target Default.hpf, 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>hpf produces a file name of the form 001.hpf. It is advisable to use this tag with the <job#> 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, the template

<prefix><jobname><dot>hpf produces the file name 1. Uncalibrated Target Default CMYK + spot colors target.hpf.

#### <quality>

You can use this tag to include the quality setting in the file name string. For example, based on the job details above, the template <quality><dot>hpf produces the file name Best.hpf.

**<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 cause an error. 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>.hpf produces the file name `UncalibratedTargetDefaultCMYK+spotcolorstarget.hpf`, 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 cause an error.

For example, the template <win32><jobname><dot>hpf produces the file name `Uncalibrated Target Default CMYK + spot colors target.hpf`, 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 600 x 600 dpi and 300 x 300 dpi by using this tag. This tag produces a string such as 600 or 300, 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 600 x 600, this tag produces the string 600.

## 8. Post processing operations

After a job has been processed the plugin can trigger a specified action, such as running a batch file or launching an application. Any action that can be triggered through a command line interface or batch file can be used, although commands which require user input are unlikely to succeed. The few restrictions that apply are as follows:



- Include the full path name to the application you are calling.
- The application must be located on the local machine; not on a machine located on a network.
- The *expanded* command line must comply with your operating system's limitation on command line input length. Anything up to 125 characters is acceptable on all systems: most support longer command lines. See your operating system documentation.

Table 4.6 lists the substitution codes supported by the plugin, which are used to pass data to your batch file or application. You may limit the number of characters passed by the substitution code by adding an integer. For example, %6j only passes the first 6 characters to the application.

Post processing substitution codes	Description
%c	The current separation colour, 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, 26 May 2003 becomes: 20030526.
%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.hpf</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:\SWNT\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 job name, after removal of all the characters that would be illegal in a file name. For example: <b>Apple.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>hpf</b> .
%z	The current file name stem. For example: <b>out00001</b> .

**Table 4.6** Post processing substitution codes

## 8.1 Command line monitoring

The RIP uses the monitor window to report the post processing commands that have been run. Typical output takes the form:

```
Running post-job command "C:\test\logfile.bat out00002.hpf 112442" in directory
C:\SWNT\SW\Output
```

where:

`C:\test\logfile.bat` is a batch file

`out00002.hpf` is data used by the batch file. See %f in Table 4.6

`112442` is the time (11:24) the job was processed. See %t in Table 4.6.

`C:\SWNT\SW\Output` is the working folder specified in Device Configuration, see page 14.  
See %o in Table 4.6.

## 8.2 Troubleshooting post processing command

Your post processing commands might not execute as you would expect them to. If this is the case, there are a number of troubleshooting tips which you can follow:

- Open a command dialog and run the post processing command there.
- A substitution code may be being misinterpreted by your operating system. Try enclosing the substitution code in double quotes, for example "%f".
- The total length of the *expanded* command line may be too long for your operating system to handle. Expanded means after the full text has been inserted for the substitution codes. All systems will support command lines up to 125 characters: many support command lines considerably longer.
- For a thorough test of how commands behave when used at the command prompt, try running a batch file with the following content:

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

## 9. Colour management

The HP DesignJet 120 plugin provides ProofReady profiles for ‘out-of-the-box’ colour management. The profiles adjust colour output to suit the resolution and paper type installed in the printer, ensuring that output is colour accurate for whatever media settings are in use.

For more information on the Torrent RIP colour management solutions, see *Harlequin Color Production Solutions User’s Guide* and *Torrent ColorPro User’s Guide*.

This section describes the complete colour management process, including:

- “Calibrating the printer” on page 27.
- “Creating and installing ICC profiles” on page 29.
- “Creating a HIPP or ColorPro colour setup” on page 30.
- “Using Harlequin Full Color System (HFCS)” on page 31.

## 9.1 Calibrating the printer

You should calibrate the printer for *each* device type and paper/resolution that you use. The plugin is supplied with a number of calibration profiles that define the ideal or ‘reference’ state for the printer. However, the response of your printer (the ‘user printer’) may differ from the reference printer. To obtain optimum output quality you should 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 ( ).

Supplied reference profiles are installed in ...\**<RIP folder>\SW\Config\Devices\DevCalibration\**.

The procedure for calibrating the printer depends upon the Torrent RIP version that you are using. See page 28 for instructions on calibrating Torrent v5.x; see the following section for Torrent v6.0.

### 9.1.1 Torrent v6.0 calibration procedure

Print and measure three targets to ensure accurate calibration. Subsequent recalibrations can be made with one pass only, as described in “Recalibrating the printer” on page 29.

#### Print and read the 1st 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 dialog box. From the list there choose your page setup, and 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 dialog box. In the Manager click **Device** and select the correct device, and then click **New** to open Edit uncalibrated target for.
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 **HP 120 Photo Gloss-1** and click **Import > Import** to read the calibration data.
7. Click **OK** until all open windows are closed.

#### Print and read the 2nd 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 (**HP 120 Photo Gloss-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 **Copy** to create a duplicate of the profile. From the list select this copy and click **Edit from calibrated target**, to open the Edit calibrated target for... dialog box.
5. Change the name of the profile to **HP 120 Photo Gloss-2** and click **Import > Import** to add the calibration set.
6. Click **OK** until all open windows are closed.

### Print and read the 3rd target

1. In the RIP, open your page setup and from the **Calibration** list select **HP 120 Photo Gloss-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 **Copy** to create a copy of the profile. Select the copy and click **Edit from calibrated target**.
5. Name the profile **HP 120 Photo Gloss-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.
6. Modify your page setup so that it uses the best calibration set. To avoid choosing an incorrect profile in a page setup, you may wish to remove the intermediate calibration sets from the Calibration Manager.

**Note:** In some instances the final calibration profile is *not* the best of the three. If this happens, use the best one in your page setups and discard the others.

### 9.1.2 Calibration procedure for Torrent v5.x

Carry out this calibration procedure for *each* device type and paper/resolution setting that you use. To preserve accuracy, recalibrate the printer at regular intervals, as described in “Recalibrating the printer” on page 29.

1. Create a page setup in the Torrent RIP with the following options:
  - **Device**—select a device to use: see Table 4.1 on page 17.
  - **Calibration**—select the paper/resolution type.
2. In the Torrent RIP, click **Output > Print Calibration** to open the Print Calibration window. From the list shown, choose your page setup then click **Print uncalibrated target**.
3. Measure the printed target with *Genlin*, or your preferred calibration tool. *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 the Edit uncalibrated target for... window 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 a name for the profile, for example **HP 120 Photo Gloss** and click **Import > Import** to read the calibration data, and then click **OK** until all open windows are closed.
7. Modify your page setup so that it uses the named calibration set.

### 9.1.3 Recalibrating the printer

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 **HP 120 Photo Gloss-Date**.
4. Modify your page setup so that it uses the new calibration set.

## 9.2 Creating and installing ICC profiles

Creating and installing an ICC profile involves the following processes:

- Creating a suitable page setup.
- Printing and measuring an ICC profile target to produce an ICC profile.
- Installing the ICC profile in the RIP.

When creating a page setup to use for printing profiling targets you have two main options:

<b>Raw State</b>	<p>You can create a page setup that contains no colour management data:</p> <p><i>v5.x RIPs:</i> Set the <b>Color</b> and <b>Calibration</b> options in the page setup to <b>(None)</b>.</p> <p><i>v6.0 RIPs:</i> Set the <b>ProofReady</b> and <b>Calibration</b> options in a page setup to <b>(None)</b>, and set the <b>Color</b> option to <b>(No color management)</b>.</p> <p><b>Note:</b> A printer that is set to a 'raw state' may not be a suitable basis for creating profiles.</p>
<b>Golden State</b>	<p>You can use a temporary calibration profile or calibration set in your page setup that supplies a reference state for the printer. Use this calibration profile or calibration set to produce the ICC profile and remove it afterwards.</p>

The option that you choose affects the ICC profile and how you install it.

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 will vary 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, resolution and screening used, but a good guide is to limit the coverage to 280% for uncoated papers and to 340% for coated papers. Some experimentation may be required to determine the optimum setting.
- **Black generation:** The presence of black ink in highlights can, in some cases, be objectionable and can introduce an unnecessarily grainy appearance to some images. Select a setting which images black only in dark regions. (If it is not clear which settings will image black only in dark regions, select the minimum amount of black generation allowed by the ICC profiling package.)
- **Number of patches:** Although the number of colour patches printed and measured is not always a guide to colour quality, it is generally true that printing more patches produces better results for any given ICC profiling package.

To install the ICC profile, click **Color > Install ICC Profile** to open the Install ICC Profile dialog box, and then click **Linear Calibration From** and select either:

- **Linear** if the page setup you used contained no colour management data (raw state); *or*
- The name of the calibration profile or calibration set that you used in the page setup (golden state).

You can create a colour setup using this profile, see “Creating a HIPP or ColorPro colour setup” on page 30 for details.

### 9.3 Creating a HIPP or ColorPro colour setup

“Processing jobs with page setups” on page 10 demonstrated how the selection of a calibration profile (for Torrent v5.x) or a ProofReady profile (for Torrent v6.0) automatically includes a default colour setup to provide instant colour management. The colour profiles used in the default colour setups are also available for the creation of your own colour setups. Alternatively, you could also create a colour setup using imported ICC profiles. See “Creating and installing ICC profiles” above for further information. Creating your own colour setup allows you to specify the input profiles as well as other colour setup options.

#### To create a colour setup

1. In the Torrent RIP, click **Color > Color Setup Manager** to open the Color Setup Manager.
2. From the **Device** list, select the device you are creating the colour setup for, and then:
  - in Torrent v6.0, click **New ‘ColorPro’ Setup**;
  - in Torrent v5.x, click the ICC (HIPP) **New > Create** button;
 to open the New Color Setup dialog box.
3. In New Color Setup, choose your colour setup options, for example, choose **3M Matchprint** for the CMYK input profile and **sRGB** for the RGB input profile and then choose **DJ120 600 SD Sheet** as the output profile.

4. From the **ICC Rendering Intents** (or **Main intent** menu, depending on your RIP version) choose from the following:
  - Default Absolute Colorimetric
  - Default Perceptual
  - Default Saturation
  - Default Relative Colorimetric
5. Set your remaining options as required. For more information see, *Harlequin Color Production Solutions User's Guide* or the *Torrent ColorPro User's Guide*.
6. Click **Save As** to save the colour setup and choose a name for the new colour setup. Click **Save** and then **OK** to close the Color Setup Manager.

You can now use this colour setup in a page setup. A list of colour profiles is provided in Table 4.2 on page 18

## 9.4 Using Harlequin Full Color System (HFCS)

In v5.x RIPs, the Harlequin Full Color System (HFCS) can be used to create a colour 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 colour 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.

## 10. Troubleshooting

This section of the manual provides troubleshooting information should the plugin not operate as you expect or if a message appears that requires further explanation. If needed, your Torrent RIP support organization will be able to provide further assistance.

### 10.1 Error messages reported by the plugin

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

*Symptoms:* May occur when printing on large paper sizes or with a high resolution. 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.

*Solution:* Increase the setting for band size in the Configure RIP options dialog box to 1024 KB.

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

*Symptoms:* Occurs when a device type is used with a name similar to another device, or when a new device is created where the case of the letters does not match those used in the device type label.

*Solution:* Change the device name to something completely different. Open the Device Manager, select the device and click **Edit** in the Device Manager Edit dialog box.

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

*Symptoms:* Occurs when HDS screening is being used when HDS has not been enabled in the RIP.

*Solution:* Enable HDS or HDS Light (**Torrent RIP > Configure RIP > Extras**), and then re-submit your job.

\*\*\*\*\*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.

*Symptoms:* May occur when using the RIP under Windows NT with service pack 6 or 6a, or Windows 2000.

*Solution:* This message may be ignored since performance is unaffected and is simply caused by the way NT SP 6/6a and Windows 2000 handle memory requests. This message does not occur with NT SP5. Reducing the amount of memory available to the RIP may alleviate this warning, however RIP performance may consequently be affected, depending on the RAM you have available.

Not enough system memory to output this page.

*Symptoms:* May occur when the RIP is using more memory than is necessary for safe operation of the operating system (OS). On Apple Macs you may also see the OS display a warning message, or the system may freeze before it has a chance to display the message.

*Solution:* On the Apple Mac, set the system option **Minimum memory left for system** to 10000 KB. Large page sizes may need a larger value. For PC systems add more RAM to the machine.

## 10.2 Printer-specific messages and symptoms

Many of the printer-specific warnings are informative messages, which can be ignored without any adverse effects. Other messages can often be cleared by aborting output from the RIP, clearing any used media from the printer and starting the job again.

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

*Symptoms:* May occur when a custom paper size page setup is used that is subsequently changed to use a larger paper size. Clipping may occur in the output as the media values used for the custom paper size are still associated with the page setup.

*Solution:* Change the media values in Page Layout so they are larger than the paper size selected in Configure Device, or create a completely new page setup.

Warning: Top and Bottom Margin values will be swapped.

*Symptoms:* May occur when sheet-fed devices are being used.

*Solution:* The message is output for information only and may be ignored. It occurs because the RIP needs to swap values specified in the Page Layout dialog box for the top and bottom margins, so it can deal with sheet-fed devices correctly.



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

*Symptoms:* Occurs when the RIP has finished sending a job to the printer.

*Solution:* The message is for information only and can be ignored.

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

*Symptoms:* Occurs when the RIP has finished creating an output file for the job.

*Solution:* The message is for information only and can be ignored.

**Printer communication failed ( error details )**

**Unable to connect to printer ( error details )**

*Symptoms:* The RIP is unable to communicate with the printer, as described by the error details.

*Solution:* Refer to the error code for the cause of the failure.

**Unable to open output (error details)**

**Open error (error details)**

*Symptoms:* The RIP is unable to communicate with the printer, as described by the error details.

*Solution:* Refer to the error code for the cause of the failure.

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

*Symptoms:* The RIP is not able to create an output file for the job.

*Solution:* Make sure there is sufficient disk space for the output file. Also, make sure a file of the same name does not already exist, and that the disk is not read-only.

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

*Symptoms:* The RIP is not able to create an output file for the job.

*Solution:* Make sure the output path is valid and is writable. Also, confirm the template file name is valid, as specified in Configure Device.

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

*Symptoms:* May occur after an error has been reported.

*Solution:* If the RIP aborted due to a problem with the parallel (LPT1) connection method, you may be prompted to retry or cancel the job. 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**

*Symptoms:* May occur when an output file is being written.

*Solution:* The message is for information only and can be ignored.

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

*Symptoms:* Occurs after a job has been aborted.

*Solution:* The message is for information only and may be ignored.

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

*Symptoms:* Occurs after a job has been aborted.

*Solution:* The message is for information only and can be ignored.

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

*Symptoms:* Occurs after a job has been aborted.

*Solution:* The message is for information only and can be ignored.

#### **Printer ejects paper before completing a page**

*Symptoms:* The page is ejected from the printer before it has finished printing.

*Solutions:* There are a number of possible solutions:

- Reset the printer and try printing the page again.
- In your PC BIOS, check the mode setting for the port. Do not use EPP mode, especially if a security dongle is attached.
- If your PC has a second printer port, try using this port instead.
- Swap the parallel printer cable for another one.

#### **Poor or erratic image quality**

*Symptoms:* The print quality is poor.

*Solution:* There are a number of possible solutions:

- Check the printer is operating correctly and is able to print a self-diagnostic test page. Your printer manual will have details on how to print a test page.
- Make a note of any error or warning messages issued by the RIP/plugin and use the recommended troubleshooting procedures, as described in this section, to fix the problem.
- Check the settings used in the Torrent RIP page setup. You may have used an inappropriate setting for resolution or print quality.

#### **No output**

*Symptoms:* No output from the printer.

*Solution:* Check the status of the printer: make sure it is online, powered and connected. Also, check that ink and media are loaded and ready to be used. If necessary, print a self-diagnostic test page (your printer manual will have details on how to do this).

#### **Output appears clipped**

*Symptoms:* Printed output may be clipped at the top, bottom or side of the page when printing with large paper sizes or high resolutions.

*Solution:* Increase the band size setting to 1024 kb in **Torrent RIP > Configure RIP > Options > Band size for printing**.

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

*Symptoms:* Black is not printed as 100% process black when a job is colour managed.

**Solution:** To prevent black being colour managed, add a page feature to your page setup that runs the following PostScript:

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

Refer to the *Torrent User's Guide* for details on creating and using page features.

### Banding at 300dpi

**Symptoms:** Device pauses for a few seconds shortly after printing starts, resulting in a band in the first few inches.

**Solution:** Increase the band size setting to 2148 kb in **Torrent > Configure RIP > Options > Band size for printing**.

## 10.3 Messages for file name templates

This section details possible error messages that may appear in the RIP monitor window due to the use of incorrect file name templates (see “Output File Naming” on page 20). Suggestions are given to prevent these errors.

### 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 “Examples of tag usage” on page 21.

### 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 “Examples of tag usage” on page 21 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. Using the `<dot>` tag in conjunction with the `<unix>` tag would generate this error. To prevent this error, create a template such as `<unix><jobname>.hpf` 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 file path of the output file (for example, `C:\SW53\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 path was not supplied**

This message appears when the file path is not specified in the **Change...** text box within the 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.

**Tag delimiter not found**

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

**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, you must change the file permissions to provide write access.

**Unique requested but not satisfied**

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

## 10.4 Messages for post processing

This section details possible messages that may appear during post processing (see “Post processing operations” on page 24).

**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.

## 10.5 Parallel port performance and reliability

We are aware of several problems with parallel port behavior when working with built-in parallel ports on PC platforms—where the hardware implementation and supported modes of operation have changed greatly over the development history of the PC.

For built-in parallel ports, there are different issues under Windows NT as opposed to Windows 2000 and Windows XP.

### Windows NT

Under Windows NT, the data transfer rate of some parallel ports can be very poor. In most cases, the data rate achieved by the RIP is now as high as can be achieved by copying a file to the parallel port, but this rate is often less than you may expect to achieve.

(Windows NT always uses the parallel port in a basic or compatible mode, regardless of BIOS settings such as those discussed next.)

### Windows 2000 / Windows XP

Under Windows 2000 and Windows XP the parallel port driver can achieve higher data rates, especially when operated in ECP mode. Using this mode the operating system sometimes crashes or shuts itself down. You can avoid these problems by reconfiguring the parallel port in the BIOS to select the most basic configuration. The way to enter and change the BIOS configuration varies from machine to machine, as does the terminology used for the parallel port mode.

To avoid crashes, try using options with descriptions such as “bidirectional”. Do not choose any option where the description includes the words ECP or EPP.

## 10.6 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 NT, 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 <b>Passwords</b> folder, which is a subfolder of the <b>sw</b> folder. See the <i>Torrent User's Guide</i> for further details.   |
| Password      | Use the <b>Torrent &gt; Configure RIP</b> menu option to display the Configure RIP dialog box. Click <b>Extras</b> 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 <b>Add</b> to display the Enable Feature dialog box. Enter the password given to you by your supplier, and click <b>OK</b> . |

## 10.7 Patterning when not using colour management

You may see patterning in flat tint areas of black if you print without using any colour management. To avoid this problem, use the supplied calibration profiles and colour profiles, as listed on page 18. If the media or screening type that you wish to use is not supported by the supplied profiles, you need to create your own profile. If necessary, you can use the supplied profiles that are optimized for HDS Super Fine screening with all of the HDS screen sets.

## 10.8 Known issues

The following minor issue was noted during testing of the HP DesignJet 120 plugin. The issues described here do *not* affect the performance of the plugin, and are provided for your information only.

- **Incorrect media type when US-B or US-B Transverse is selected**

When either **US-B** or **US-B Transverse** is selected from the Page Layout media size list, Ledger Transverse and Ledger respectively are displayed instead. You may ignore this error, as the substituted paper has the same dimensions as the paper you selected.

- **Long waiting time before the printed media is ejected**

After printing on certain media types—usually glossy types or other heavy papers—the printer waits quite a while before ejecting the paper, displaying an hour glass in the printer's LCD panel at the same time. This is normal behavior and is due to the printer waiting for the ink to dry before ejecting the sheet.