



GltIProof Reference Manual

Windows NT 4.0 / Win 2k / Win XP

Version 3.27
RIP Version 6.0

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Foreword

Thank you for purchasing a quality Xitron product.

The GrltIProof plugin was developed by Graphics Integration to provide a low cost RIP suitable for the support of a wide range of ink jet and laser based printing devices. With the acquisition of Graphics Integration by Xitron in December 2000 the product is now distributed by Xitron.

This manual covers the installation and use of the GrltIProof plugin for driving ink jet plotters using the “rtl” language. The plugin requires an existing Xitron Navigator or Navigator XPR RIP, which should be installed and functioning correctly before installing the plugin. The plugin requires an Intel based PC running Windows NT 4.0, Windows 2000 or Windows XP.

Supported Printers

- Encad Novajet 500, 630, 700, 850, Pro-36, Pro-42e, Pro-50, Pro 60e, Pro 600e
- HP DesignJet 1050C, 2000CP, 2500C, 2500CP, 3000CP, 500, 800, 5000 and 5500 (the DJ 1000, 2000, 3000 range plus the 5000 are also supported by Xitron’s XPR and ProofReady Plugins which provide pre-configured color management in addition to output capability)
- Mutoh PJ-1304NX, RJ-4000, RJ-4100, RJ-6100
- OmegaJet 52 and 62
- Ricoh 4910, 6910

Color Management

The rtlIProof plugin does not include any color management features, but it can be used in conjunction with optional ColorPro

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(Harlequin's full function color management system) on 6.0 RIPs, or HIPP (Harlequin's ICC Profile Processor) on earlier RIPs.

ICC profile creation software is not included with this product. You should utilize one of the popular quality ICC profile creation software packages available on the market in order to create your own profiles.

Chapter 1: Installation

1.1 Configuration Requirements for Navigator RIP

- Windows NT 4.0 (SP5) or Windows 2000 (SP2) or Windows XP equipped PC
- Minimum 256 MB RAM
- 10 GB free disk space
- USB port (6.0 RIP) or parallel port for security dongle
- Second parallel interface or other printer connection method

1.2 Hardware

The printer is interfaced to the RIP using a standard Windows printer driver supplied with the printer. This driver should be installed and configured according to the printer manufacturer's recommendations before configuring the RIP.

When using a Parallel port we strongly recommend the use of a second Parallel port to avoid conflicts with the RIP dongle. Since the driver connects to the printer using the Windows printing system, it is also possible to use any configuration such as LAN, Parallel port on a remote PC, USB adapter etc. that is available to the Windows printer. GrltIPProof is also able to output data to file for sending to the printer under the control of other software.

1.3 Windows Installation

Be sure that you are logged on as Administrator, and insert the Navigator RIP CD into the CD ROM drive of your computer. (If you have downloaded the GrltIPProof plugin then you should run the self-extracting file received into a suitable folder on your hard drive, then launch the Setup application.)

Inserting the CD should start the setup program, or you can launch it from 'My Computer'. If using the Navigator RIP CD you will see a

start up screen with several options – click on the “Install Plugins and Tools” option. (You can also choose to install the plugin at the same time as you install the RIP, just check the boxes for the plugins that you wish to install.)

After a few moments the following screen will appear:

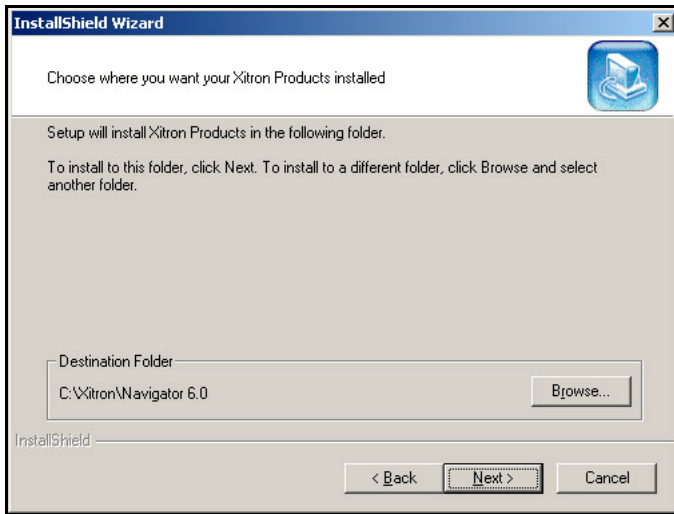


Figure 1.1. Plugin Destination Selection Window

Check that the destination folder is the correct location for the RIP you are installing the plugin on. If it is not correct use the *Browse* button to locate the correct folder, then click on *Next*.

At the next screen scroll through the list of possible plugins, and confirm the installation you wish to make. Confirm your selection by checking the box “GirtIProof Output Plugin”, then click on *Next*.

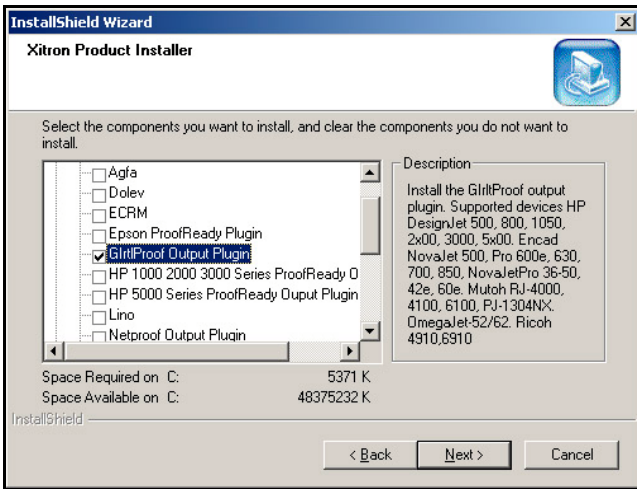


Figure 1.2. Plugin Selection

At the next screen enter the plugin password(s) you will have received with the plugin. There will be one 20 character password, and possibly also a 7 digit number. Enter the password(s) carefully.

Note: If you do not enter the passwords now you can just click on Next and add them later. This is shown later in this section.

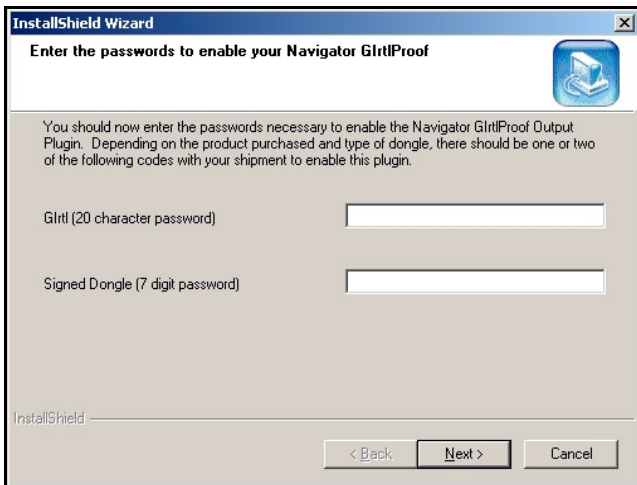


Figure 1.3. Device Password Entry

If you do not have a password (or if it is entered incorrectly) then rtiProof will operate in a demonstration mode. In this case vertical stripes will be imaged over the output printing.

Click on *Next* and a further Password window appears:



Figure 1.4. RIP Password Entry

This window is provided to enter 7 digit RIP passwords for features such as HDS Screening and ColorPro or HIPP color management. If these features are already installed then the fields on the window will show the current passwords.

Again if you do not enter these passwords now they can be entered later as explained below.

The installer copies files from the CD to your computer and prompts you to re-start the system. You should re-start before you launch the RIP and use the plugin.

If when you first start the RIP you see the following window appear, then the correct password was not entered during the installation process. Check the 20 character password and enter it now:

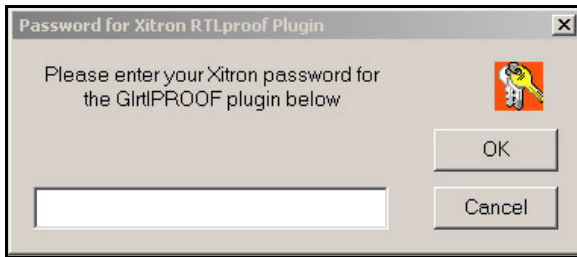


Fig 1.5 Password Entry Prompt

1.4 Entering Security Code(s)

In addition to the Password mentioned above you may also need to enter a Security Code in the Navigator RIP to enable the driver if this was not done during installation.

A security code is required for certain versions of the RIP; generally all XPR series RIPs will require a Security Code, but Imagesetter Navigator RIPs will not.

To determine if your RIP requires a Security Code first start the RIP software; select the menu item Device Manager on the Navigator menu; select the Plugin "GirtlProof.i32" in the plugin list box, click on New and attempt to select a device in the Type list box. If no device types appear, you need to enter a Security Code. If you cannot find "GirtlProof.i32" at all, re-install the plugin, making sure you select the correct folder for the RIP.



Fig. 1.6 XPR RIP with no security code for GirtlProof

To enter the Security Code select the Configure RIP dialogue from the Navigator RIP menu. Click on Extras and scroll through the list until you find the entry "GrltIProof". Click on the "Extras" button and scroll down the list until you see the entry "GrltIPROOF, RTL". Highlight this name in the list and click on "ADD". Enter the Security Code from the list supplied with your plugin exactly as shown on the sheet.

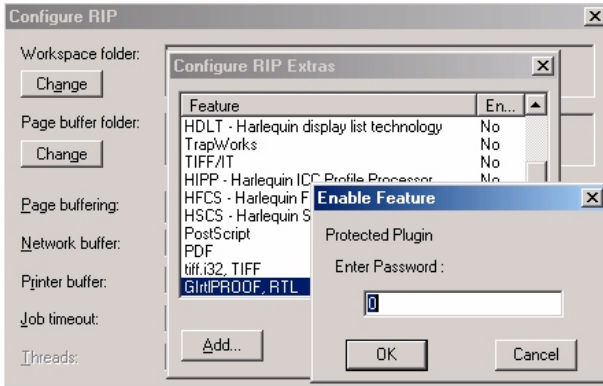


Fig. 1.7 Enter Security Code for GrltIProof

Note: This step is **not** required if you are installing the driver on a Navigator high resolution Imagesetter RIP. In this case you will not see this entry in Configure RIP Extras, and you can skip it.

Similarly enter Security Codes from the codes list for any other options you have purchased such as "HDS Low Resolution" and "ColorPro" or "HIPP" in this dialog box if these were not entered during installation. (If you do not have an HDS Code you will not be able to use Stochastic screening with this driver, but you can still output using conventional dot screening. If you do not have an HIPP or ColorPro Code you will not be able to use ICC based color management in the RIP.)

1.5 Install Device Types

If it's not already running, start the RIP and access the Device Manager from the Graphics-Pro menu.

Select "GrltIProof.i32" in the Plugin list box, and click on New.

Enter the Output Device name you wish to use to refer to this printer. Select from the drop down "Type" list box the appropriate make and model of printer, as shown below:

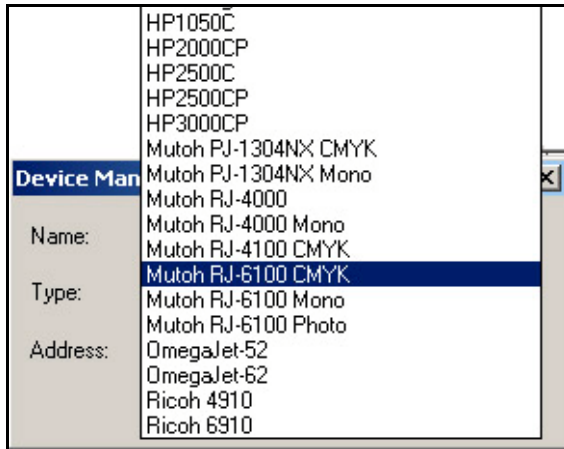


Fig. 1.8 Select Device Type

Do not enter any information in the Address field. Click OK.

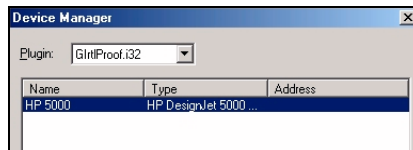


Fig. 1.9 Device Type List

The Name you choose here is the name under which the device will be identified in the RIP Page Setup dialog. You can add as many different Names and Device Types as you wish.

For several device types there is more than one entry in the Type list. These entries represent different imaging modes, as follows:

- **Photo** – uses a PhotoInk color space, and 6 inks, CMYK, Light Cyan and Light Magenta. Output is screened in the RIP using either conventional dot screens or optional HDS Stochastic screens. Photo mode will give the best results where available.

- **CMYK (or Halftone)** – uses a conventional CMYK color space and 4 inks. Best choice if Photo is not available. Output is screened in the RIP using either conventional dot screens or optional HDS Stochastic screens. This is in fact the default mode for all devices with only one entry in the list.
- **Mono** – uses black ink only. Output is screened in the RIP using either conventional dot screens or optional HDS Stochastic screens. Color images are rendered in black and white or as separations.
- **Contone** – (currently an option for the HP Design Jet 5000 only). The RIP generates continuous tone CMYK data (32 bits per pixel) which are transferred to the Design Jet where they are screened and separated into 6 colors in hardware. Because images are output in continuous tone the image quality will be essentially unchanged even if the RIP is operated at a relatively low resolution, say 150 dpi. The printer will screen the images and output at 600 dpi regardless of the resolution of the contone data. Operation in this way may well be faster than using Photo or CMYK modes with in-RIP screening. Text and line work quality may appear degraded however.

1.6 Install Windows Printer Driver

You must select a method of output for the driver. The plugin prints via the Windows Spooling system. This option has many benefits, the Windows Print system will handle the printer for the RIP and deal with any errors, reporting them to the user without disrupting the RIP.

To print via the spooling system you must install the appropriate Windows printer driver that is supplied with your printer. In the following example the HP DesignJet 5000 driver is shown.

You need to ensure the data type on this printer driver is set to RAW mode. To do so locate the installed printer driver, right click your mouse on the printer and select Properties.

Click the Print Processor button to display the dialog shown below. Check that Print Processor "winprint" is set to RAW and tick the box "Always Spool RAW Datatype". Click OK.

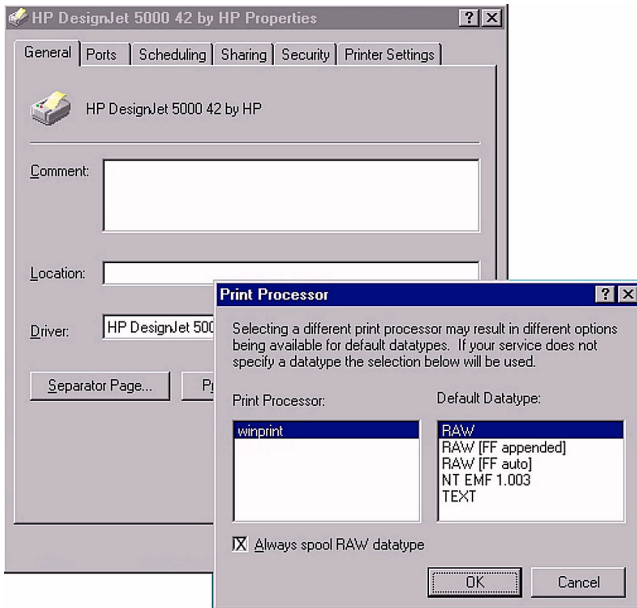


Fig. 1.10 Winprint Print Processor

Select the Ports tab and confirm that the connection method configured in the driver is correct for the intended direct or networked connection. Consult your printer documentation for details about specific connection methods supported by the printer. You can also connect to remote print servers or shared printers in this way.

Use the "Print Test Page" button to confirm the printer is correctly connected and working properly. Click OK to close the Printer Properties Dialog.

Note that in this instance the Windows driver is being used only to spool data which are already formatted for the printer. The Windows driver is not processing these data, so none of the settings for media, quality, color control etc. that the driver may include has any effect.

1.8 Setting up your Printer

Before you output to your printer from the RIP you need to make sure the printer is properly set up, the ink system loaded and any tests or adjustments recommended by the manufacturer have been carried out. Banding and patterning artifacts that are often blamed on the RIP are in fact usually due to the printer's having a blocked nozzle or mis-aligned print head.

Chapter 2: Configuration and Setup

There are several steps required to create a Page Setup when using rtfProof. These steps are covered in turn in this Chapter.

2.1 Edit Screening Style

Select the menu item Color > Separations Manager.
Select the device you created earlier (in Device Manager).

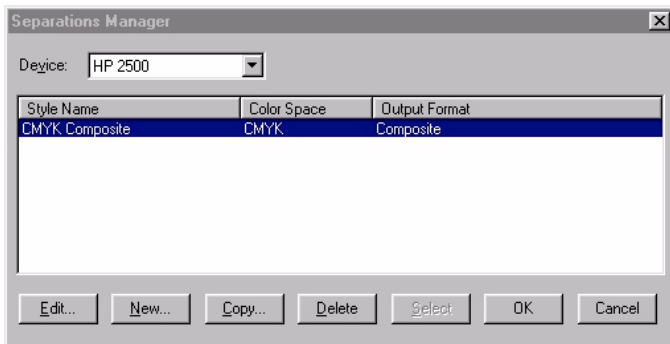


Fig. 2.1 Color Separations Manager

Depending on the Device Type Imaging Mode (see 1.5 above) you will see one or more of the following Screening Styles:

- CMYK Composite
- PhotoInk Composite
- Monochrome
- CMYK Separations

You will find two Separation Styles listed for the Monochrome devices. These styles are Monochrome and CMYK Separations. Choosing Monochrome causes color images to be rendered in a single monochrome image, while choosing CMYK Separations

causes color images to be separated into 4 individual monochrome separations.

For each Separation Style you wish to use, highlight the Style and click on Edit. The Edit screen that is displayed depends on whether the Separation Style is a Halftone or Contone style.

Halftone Styles (CMYK Composite, PhotoInk Composite)

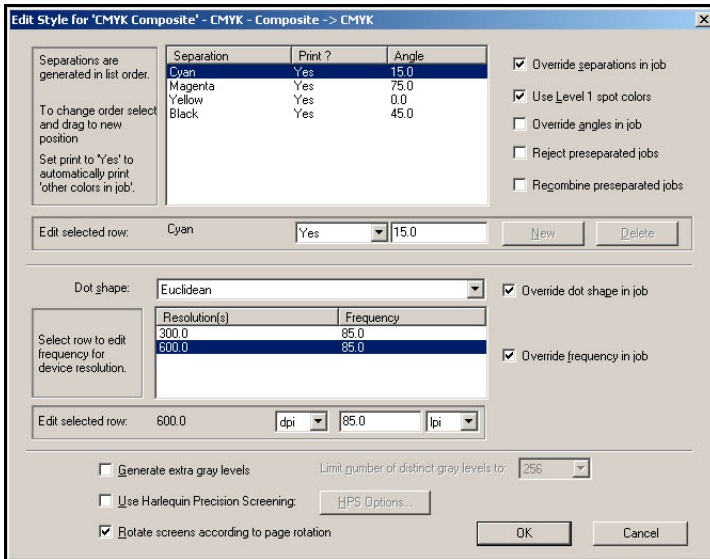


Figure 2.2. Halftone Separation Style Editor

Note that the number of listed Separations may vary from one to 6 depending on the specific Style being edited. The figure shows the typical case of the CMYK Composite Style.

Continuous Tone Styles (HP DJ 5000 & 5500 Contone)

This screen is the same as the Halftone screen except that the sections related to screening are omitted:

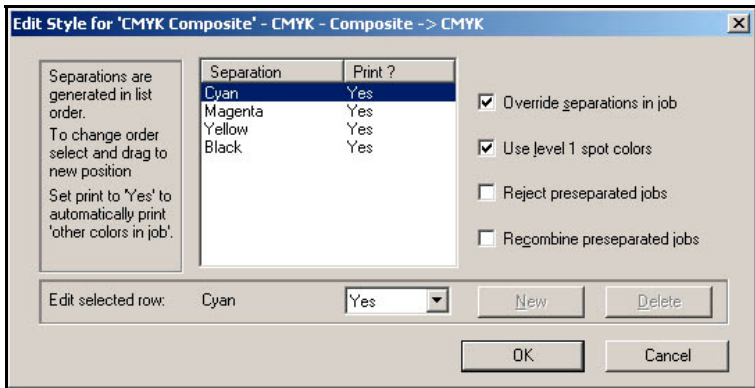


Figure 2.3. Continuous Tone Separation Style Editor

The main controls in these windows are listed here with recommended settings. For full details see the Navigator RIP Reference Manual.

- Dot Shape – Generally use Euclidean or Round for conventional dots, HDS Super Fine for Stochastic screens. Note that for PhotoInk printers the correct choice is Hex HDS Super Fine.
- Screen Rulings – used only in conjunction with conventional dot based screening, enter values for screen ruling for each resolution available, as shown here:

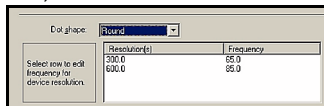


Figure 2.4. Screen Ruling Table

- Generate Extra Gray Levels – should be On and the number of Grey Levels should be at least 1024.
- Use Harlequin Precision Screening – should be On if using conventional dot screens.
- Recombine Preseparated Jobs – should be On if it is wished to accept pre-separated PostScript files for color output.
- Reject Preseparated Jobs – should be On if it is wished to reject (abort) such jobs.

2.2 Create Page Setup

Select the menu item Navigator > Page Setup Manager and click New. The following window appears:

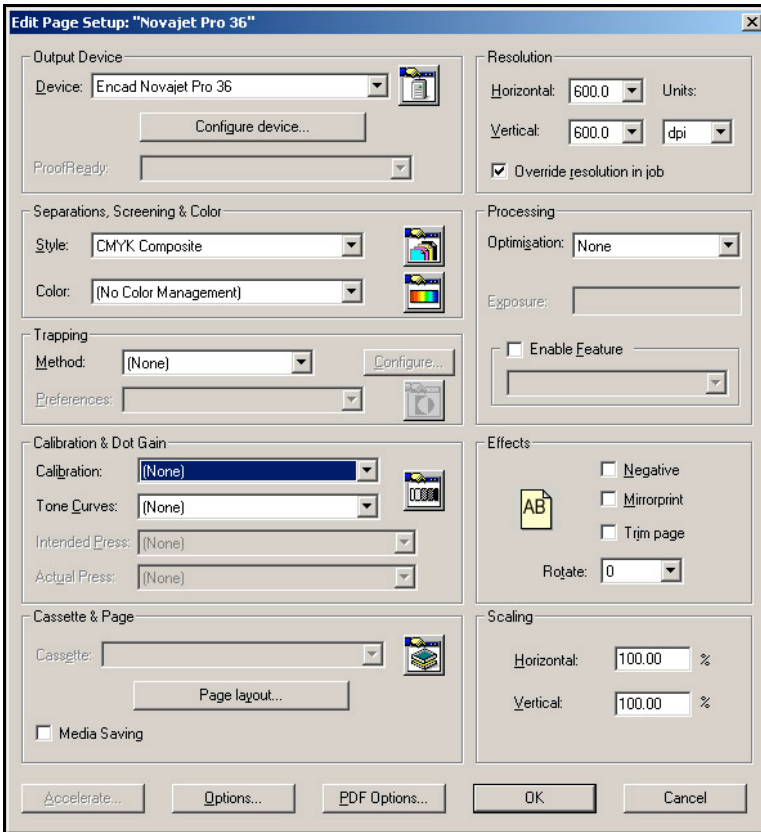


Figure 2.5. Page Setup Editor dialog box

2.2.1 Select Device

Choose the correct output device (that you created earlier in the Device Manager), and click on the Configure Device button. A new dialog box appears:

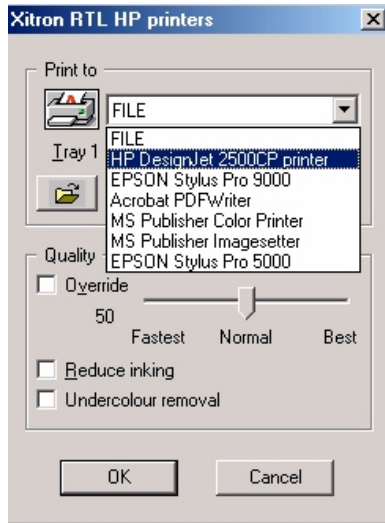


Fig. 2.6 Configure Device Dialog

Under Print To.. select the installed Windows driver for your printer. Make selections of the other controls as you require to optimize performance and quality for your application. Close the Configure dialog. (Note: the specific controls and options vary from device type to device type. For guidance with the options, hold the mouse cursor over an option and a help message will appear.)

2.2.2 Set Screening Style

Select the Screening Style, depending on the device type, from the list reviewed in 2.1 above.

2.2.3 Set Resolution

Set the output resolution. For high speed proofs use 300 by 300 dpi, for best quality use 600 by 600 dpi.

Some printer types offer more resolution options than others, so check the list box to review the options. In general lower resolutions will give faster results and reduced quality.

Click on Save As.. and save the Page Setup with a suitable name.

Chapter 3: Configure Color Management – (Optional)

3.1 Introduction

The Navigator RIP provides the option of color management by the use of ICC profiles. While not essential to create colored prints, the use of color management is necessary to create proofs with accurate color.

Depending on the version of your Navigator RIP you may have one of two methods of configuring Color Management. For RIPs version 6.0 or later the system is called ColorPro. You can find full details of its operation in the separate *ColorPro Manual*.

RIPs up to and including 5.5 use a system of color management called HIPP, which is briefly described here.

This manual includes basic guidelines for installing and configuring ICC Output Profiles for 5.5 or earlier RIPs. It does not cover profile creation, which can be done using one of several third party ICC Profile Creation packages and following the directions that accompany them.

It may also be helpful to linearize (calibrate) the system before creating profiles since it reduces the adjustments that the color management system has to make.

3.2 Installing ICC Profiles

Setting up Color Management requires the installation and configuration of the ICC profiles.

To install a profile Select the RIP Menu “Color” > “Install ICC Profiles”.

Locate the profiles that you have created. Note that each profile is only accurate for the one combination of printer family, ink set, media type, resolution and screening style that was in use when the profile was created.

As shown below, when importing a CMYK profile check the "Device Profile" box, select the correct output device you created the profile with from the CMYK Device drop down list. Do not check the "Resample on install" tick box. Select "Linear" for the "Linear Calibration" list box.

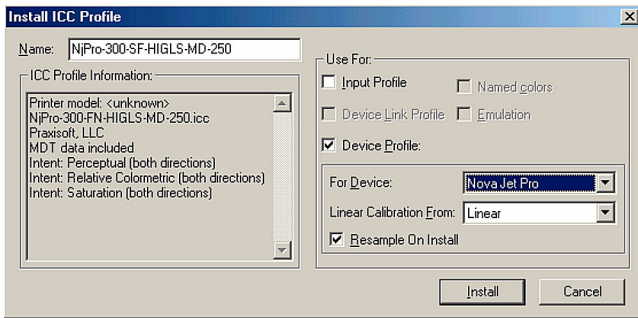


Fig. 3.1 Importing ICC Profile

After installing the profiles you need to configure at least one Color Setup using one of the profiles.

3.3 Creating a Color Setup

From the Color menu select Color Setup Manager. From the Manager select the correct output device from the list, and then click on New.

Edit the entries as in this example:-

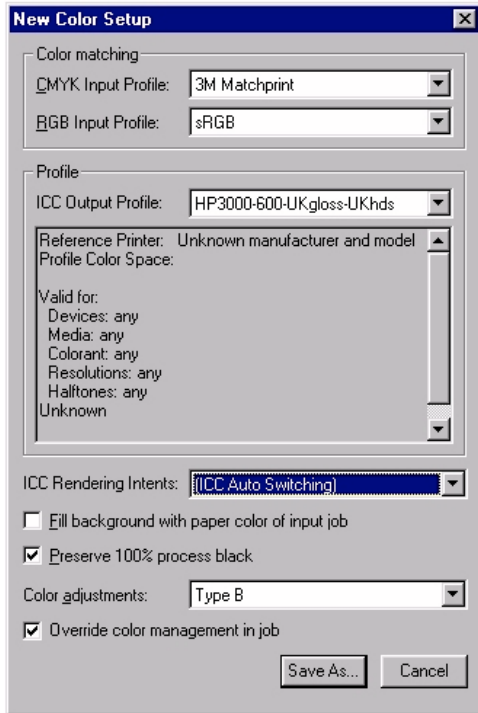


Fig. 3.2 Color Setup (HIPP) Editor

Color Matching requires an Input Profile for both CMYK and RGB images. These profiles reflect the device you are emulating with the printer. We suggest 3M Matchprint as a starting point for CMYK, and sRGB for RGB.

For Output Profile select the chosen profile you have imported. In this example we have selected a profile for an HP 2000/3000 at 600 dpi with HDS Super Fine screening on Gloss paper.

For Rendering Intent we suggest Auto as a starting point.

Leave the other entries unchanged and click OK. You will be prompted to name your Color Setup - choose a meaningful name such as "HP2500_Gloss_600".

For more details about these settings refer to the *Harlequin Color Production Solutions manual*.

Repeat the above process for any other profiles you wish to use.

3.4 Final Page Setup Configuration

Return to the Page Setup Manager, highlight the Setup you wish to use with color management and click on Edit.

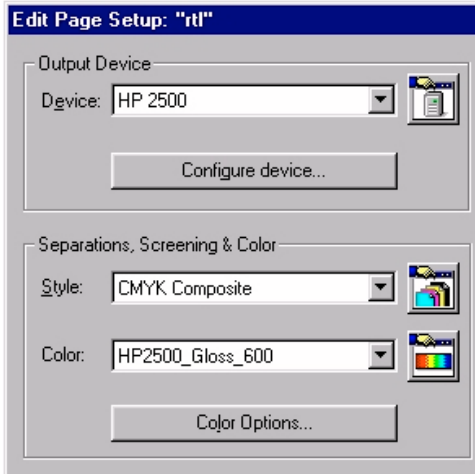


Fig. 3.3 Select Color Setup

In the Color list box select the Color Setup that you created in section 3.3 and click on Save. This installs your new color management settings in the RIP.

These settings will be utilized by the RIP when any job is processed using the Page Setup you have defined.

Create additional Page Setups and Color Setups for all combinations of device, screening, media and resolution that you wish to use.

Once you have made your Page Setups and associated them with the correct Calibration and Color setups you are ready to output either using the Print File option, or by associating your Page Setup with an Input in the Input Manager.

For more details about the Page Setup and Input Manager options see the Navigator User Manual.

Appendix A: Troubleshooting

Printer Not Ready

Check to make sure that the printer says “Ready” on the display, and that no ‘ink empty’ lights or ‘paper empty’ lights are lit, then power off the machine and power it up again.

If this does not solve the problem, check to make sure that your Windows Printer is set up properly. Make a test print from the Windows Printer Properties dialog.

Paper White Looks Yellow

Some paper stocks are very bright compared with most input samples you might be trying to match. Try turning off ‘Fill background with paper color of input job’ in your color setup, or try to use a paper stock with a white that is the same color or slightly darker than the paper white of what you are trying to match.

Streaks/Lines in Output

Usually, streaks or lines in your output are caused by poor print head alignment or clogged nozzles. You should use the software that came with your printer to perform a head cleaning or print head alignment.

Some third party inks are more likely to cause blocked jets. Use of third party inks is not recommended.

When I Start To RIP A New Job, The Current Job Slows or Stops.

On a PC running Windows, Parallel output can use up to 50% of the resources of a single processor. When the RIP starts to process another job or another page, it uses up the same resources that the

Parallel port is trying to use. Better results are obtained by using USB or Firewire connection.

Try waiting until the job has finished printing before RIPing the next page or job.

If this is a frequent problem for you, you might want to invest in a networked print server, which only uses 1-3% of the resources of a single processor. It will slow down, but not stop when you try to RIP another job. However in this case if the network is very busy print times will suffer.

A dual processor machine will automatically batch RIP functions to one processor and the printing functions to the other and you should not have any difficulties with printing and RIPing at the same time.

A dual processor machine is highly recommended if you are printing to multiple devices or are running into this problem frequently.

Can't Use Easytrap (Trapworks) with Photo Ink Device Types

Early versions of Harlequin's In-RIP Trapping product, Easytrap did not work with the 6-Color PhotoInk device types. It will work fine with the Contone or CMYK device types. If you need to view traps using PhotoInk device types then you should upgrade your RIP to 6.0 and install the TrapPro In-Rip trapping product.