
Harlequin RIPTM

Changing Default Values

Technical Note Hqn 014

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1 Introduction

This document refers to PostScript Level 2 and 3 compatible versions of the Harlequin RIP running on Macintosh, Microsoft Windows, and Linux platforms.

The default values displayed in all dialog boxes in the software are carefully selected to give the best results in a very wide variety of circumstances. There may be, however, some instances where an OEM wishes to change the default values for shipping to their end users.

There are also a number of options which may be enabled by editing start-up files.

1.1 How and where is the dialog data stored?

All of the data from dialog boxes, plus additional information such as current window size and position, is held in files within the `config` folder (or sub-folders under it) inside the `sw` folder¹.

The RIP runs these files as if they were PostScript language, but also reads them directly in a structured way. While values may therefore be edited with care using a text editor, the structure of the files is very important and must not be changed—adding a single extra line-feed can cause problems when the data is read by the RIP itself.

1.1.1 Config files

Each file in the `config` folder is named in a manner which is intended to be self-explanatory. The contents of the `config` folder vary between versions of the RIP. Listed below are the folder contents for version 8.0.

<code>Cassette Manager</code>	Settings defined in the Cassette Manager dialog.
<code>ColorantData</code>	Color settings for each device type, including a list of available colorants and the sRGB values to use for colorants when viewed in Roam.

¹ GGS reserves the right to alter the contents and structure of the `sw` folder between revisions without notice.

<code>ColorRenderingIntents</code>	Settings for color rendering intents for use with HFCS (Harlequin Full Color System), defined using the Color Rendering Intent Manager.
<code>ComposedFontsCache</code>	<p>When a CIDFont is installed in the RIP, font resources are automatically constructed for all combinations of that CIDFont with compatible CMaps so that they can be used with page design software that does not fully understand CIDFonts. This file contains a cache of the CIDFonts and CMaps and is used to avoid delays caused by scanning all resources of those types when the RIP is started.</p> <p>If you add CIDFonts or CMaps to the RIP before shipping you may wish to replace the standard file supplied by Harlequin with one automatically generated by a RIP with those fonts installed.</p>
<code>ConfigureRIP</code>	Settings defined in the Configure RIP dialog.
<code>ControlStrip</code>	Settings for the proofing control strip.
<code>CSSManager</code>	Separations, Screening and Color settings defined using the Separations Manager.
<code>eula.txt/eula.read.txt</code>	<p>This is an optional file which contains the text of an EULA (End User License Agreement). If the file exists, its contents is displayed to the user when the RIP is started-up. If the user accepts the license, the RIP continues to start, the file is renamed to <code>eula.read.txt</code> and it is not shown again on subsequent start-ups. If the user declines the license, the RIP quits and the license will be re-displayed next time the RIP is run.</p> <p>No formatting is performed on the EULA text—it is just displayed as it is in the file. For example, the text is not wrapped to fit the text area in the dialog.</p>
<code>FixedCRI</code>	Settings for fixed name color rendering intents for use with HSCS (Harlequin Standard Color System).

FontEmulation	Used to modify the Font Emulation database. For more information see <i>“The Harlequin RIP OEM Manual—Section 11.13</i> and the Harlequin RIP Tech-note <i>“Hqn065—Using and modifying Font Emulation”</i> .
FontSubstitution	Settings defining default font and font substitution preferences.
GeneralPreferences	<p>These settings define the overall functioning of the RIP. The two options in this file that may prove useful to change are <code>/MaxLogfileSize</code> and <code>/WindowsAsyncFileIOThreshold</code>.</p> <p><code>/MaxLogfileSize</code> defines the maximum size of the logfile in KB. 0 is the default and means no limit. When the limit (if any) is reached, the logfile is closed, renamed to <code>logfile.old</code> (overwriting any existing file), and a new logfile opened.</p> <p><code>/WindowsAsyncFileIOThreshold</code> defines the point at which synchronous I/O switches over to asynchronous I/O. Synchronous I/O is used for small files and asynchronous I/O is used for large files. The switch-over point defaults to 10 MB. That default can be overridden by the <code>/WindowsAsyncFileIOThreshold</code> field. If set to -1 the default value is used, otherwise <code>/WindowsAsyncFileIOThreshold</code> specifies a file size in MB below which synchronous I/O is used. Setting this field to 0 forces the use of asynchronous I/O for all files (this is the pre v7.0 behavior). Use of synchronous I/O for all files can be forced (as before) by use of the <code>NOFILEIOMAP</code> command line switch.</p> <p>Please note: Read-ahead is used for asynchronous, read-only, sequential file access, and an implementation detail of our read-ahead code is that the file can not then be written to. Previously read-ahead was used for all input job files, resulting in them all being protected from being overwritten while in use. Small input job files will now be accessed via synchronous I/O, meaning read-ahead will not be used for them and the incidental overwrite protection is lost.</p>

ImpositionManager	Contains the Simple Imposition settings. For more information on Simple Imposition see <i>"The Harlequin RIP OEM Manual—Chapter 10"</i> .
InkManager	Default settings for the CMYK ink set.
Inputs	Settings defined in the Input Manager dialog.
JobID	The job number that the RIP will use when it next starts up. The RIP requires that this number is unique, rather than starting from 0 when it restarts. The number appears in page headers which are examined by plugins.
Media Monitor	Settings defined in the Media Manager dialog
Page Setup	This file defines a procedure to copy the current Page Setup stored by the <code>HqnPageSetupConf</code> procset.
PageSetupManager	The names of page setup settings defined using the Page Setup Manager. The actual settings for the page setups are stored in files in the <code>Page Setup</code> folder, as described on page 8.
PageSizeInfo	Settings defining the page sizes available for selection in the Page Layout dialog box.
RoamColorInfo	Settings defining Roam values for default colors.
Screen Names	Spot functions in PostScript language form added to the RIP to allow screen caching under HPS (Harlequin Precision Screening).
SellLang	Settings defining the languages in which the RIP can be run, including the necessary passwords.

UIPreferences

This file contains Hand speed in roam, and if and when page buffers are to be deleted automatically, and so on. The options in this file that can sensibly be changed are:

`/DisableWarnings` and `/Headless`

When `/Headless` is `false` (the default) the normal GUI RIP will display. When `/Headless` is `true` the RIP is displayed in headless mode.

If `/DisableWarnings` is `false` (the default) normal RIP behavior is assumed. When `/DisableWarnings` is `true` warning dialogs are suppressed, assuming any default values.

UnitsInfo and UnitsMenus

These files define menus containing units of measurement in a number of dialogs in the RIP.

WindowPositions

Current sizes and positions of some windows and dialogs.

From v8.0 on Mac OS X the `sw` folder no longer contains the file `sw/Config/WindowPositions` providing default windows positions. However, it is still possible to override the default positions on Mac OS X by creating and including the file `SW/Config/Factory Settings/WindowPositions` in your distribution.

See “Factory Settings folder” on page 7 for more information.

1.1.2 Sub-folders in the Config folder

The following sub-folders are contained in the `Config` folder:

- `Devices`—see Section 1.1.3 on page 6.
- `Emulation`—see Section 1.1.5 on page 7.
- `Factory Settings`—see Section 1.1.5 on page 7.
- `Lighting`—see Section 1.1.6 on page 7.
- `Page Setups`—see Section 1.1.7 on page 8.

- **Press**—see Section 1.1.8 on page 8.
- **Profiles**—see Section 1.1.9 on page 8.
- **Targets**—see Section 1.1.10 on page 8.
- **PSLocales**—see Section 1.1.11 on page 8.
- **Trapping**—see Section 1.1.12 on page 9.

Refer to the relevant section for further details on the contents of each folder.

1.1.3 Devices folder

The **Devices** folder contains several sub-folders. These folders contain files for each device type, which record a particular group of settings. For example, the **DevCalibration** folder contains files recording calibration data for each device.

Note that some folders may not be available in earlier versions of the RIP:

DevCalibration	One file for each device for which calibration data has been entered, containing all calibration sets defined for the device through the Calibration Manager dialogs.
DevCass	Cassette information for the device.
DevConfig	One file for each device containing the most recently defined cassette, exposure, and screening settings, together with arrays to match screen frequencies with resolutions.
DevCSS	One file for each device containing settings defined using the Separations Manager.
DevHCMS	One folder for each device containing a file which defines the color setups created for the device.
DevMedia	One file for each device for which data has been entered in the Media Manager dialog.

DevPrefs	One file for each device containing default page setup settings, as well as default settings for controls in the Configure Device dialog box.
DevSetup	One file for each device instance created from a Multiple Device driver in the Device Manager dialog box.

1.1.4 Emulation folder

The **Emulation** folder contains output emulation profiles and CRD (Color Rendering Dictionary) profiles. An emulation profile enables an output device, such as a proofing printer, to reproduce the color characteristics of another device, such as a printing press. Several output emulation profiles are provided with the RIP, or you can create your own with Global Graphics' SetGoldPro.

These emulation profiles are available in the **Output Emulation** list box of a New ColorPro setup.

1.1.5 Factory Settings folder

The **Factory Settings** folder contains copies of most of the files in the top level of the **Config** folder, and the **Devices** sub-folder. When the RIP is reverted to Factory settings², files from the **Factory Settings** folder will be copied over the previous copies of the same file in the top level of the **Config** folder and its **Devices** sub-folder.

1.1.6 Lighting folder

The **Lighting** folder contains files which include definitions of the light sources selectable when creating a color setup using HFCS.

² To revert to factory settings:

Windows: Start the RIP with a command-line argument of **-RESET** (defined through **File > Properties** in the Program Manager).

Linux and Mac OS X: Start the RIP with a command-line argument of **-reset**. Note that reverting to factory settings will not affect any changes that you may have made to PostScript language start-up files, or to filter customization files.

1.1.7 Page Setups folder

The **Page Setups** folder contain data from the Page Setup and Separations Manager dialogs for each of the Page setups that have been saved from the RIP. The file names are those specified when the setups were saved.

1.1.8 Press folder

The **Press** folder contains two further sub-folders: **Profiles** and **Targets**.

Profiles contains profiles for the Printing Press device selectable when using ColorPro. The file in the **Targets** folder is used in the Calibration Manager when editing calibration sets for the Printing Press device, even in the absence of ColorPro.

1.1.9 Profiles folder

The **Profiles** folder contains several sub-folders. These sub-folders contain profiles to be used when the selected device does not include its own profiles. Some information from these files is used in the Calibration Manager when editing calibration sets for such devices, even in the absence of a ColorPro setup.

1.1.10 Targets folder

The **Targets** folder contains details of the colors expected when files from the **sw/targeteps** folder are output using the Print Target dialog. To change any of the colors used, both the EPS file and this descriptive file must be changed.

1.1.11 PSLocales

When the RIP adds additional marks to printed output, such as those marks associated with crop marks, control strips or slug lines, the main body of the code writing those marks uses text in English. In the same way that localization of the RIP GUI acts on a late-binding philosophy, so does localization of this printed matter.

A variety of files stored in the **PSLocales** folder supply all the localization data required.

For full and detailed information see the Localization Kit Manual.

1.1.12 Trapping folder

The Trapping folder contains details of trapsets created using the TrapPro Manager.

1.2 How should default values be changed?

By far the safest and simplest method of changing default values is to use the RIP to edit the configuration files:

1. Take a new copy of the `sw` folder to ensure that unwanted changes that you may have made earlier are not made permanent.
2. Alter values as required in the RIP dialog boxes.
3. Copy those files which have been changed by your editing operations from `SW\Config` into `SW\Config\Factory Settings` as well so that your changes will be maintained if the end-user performs a factory reset.
4. Make a copy of the distribution media.
5. Copy the `config` folder onto your new distribution media:

There are also a number of system and user parameters saved in files in the `sw/config` folder, most notably in `ConfigureRIP` which are not accessible from the dialogs. These entries may be edited by hand if required. Remember to be sure to edit PostScript language files using a text editor that will not change any non-printing characters which may be in a file, and which will not wrap long lines.

Full information on these parameters will be available in *Using Harlequin RIP Extensions – A Guide for OEMs*.

If you change any settings in this way and wish to distribute them to your end users then follow the steps described above, replacing step 2 by manually editing the required files.

1.2.1 Screening and separation default settings

A built-in set of defaults for screening and separation settings is provided. You may change these defaults but you can also retain the built-in set of defaults for use where you do not wish to set up your own defaults.

For example, you may if you wish, but are not required to, setup default style settings (CSS) file for a device *<device name>* to be placed in the **Factory Settings** folder at:

```
SW\Config\Factory Settings\Devices\DevCSS\<device name>
```

The Harlequin RIP uses the factory settings CSS file for:

- The default set of screening and separation styles to create for the device.
- The initial settings for a new screening and separation style for the device. The RIP looks for a factory settings style with the same colorant families and raster format as the new style; if there is a match, the RIP uses the factory settings style. If there is no match, the RIP uses the built-in default, as before.

To create one or more factory settings CSS files:

1. Use the GUI to create the required separations styles for a device. (Use the Separations Manager directly, using **Color > Separations Manager** or the tool bar icon button, *not* the button in the Edit Page Setup dialog box. This avoids any need to create unwanted page setups.) Use the **Edit** button to modify settings and use the **OK** buttons to exit all dialog boxes. This creates the disk file:

```
SW\Config\Devices\DevCSS\<device name>
```

Note: The disk file may have a suffix such as *x00*, because of file mapping. This has no effect on the style.

2. Create the folder **SW\Config\Factory Settings\Devices\DevCSS** if necessary. Copy the file created in step 1 to:

```
SW\Config\Factory Settings\Devices\DevCSS\<device name>
```

3. Repeat steps 1 and 2 for any other devices.

4. Use the GUI to delete the unwanted separation styles (and any page set-ups) that you have created during this procedure. The simplest way to do this is to use the Revert to Factory Settings option, as described in the footnote on page 7, taking care to answer **Yes** when asked if you want to revert Separation Styles but **No** when asked about settings that you wish to preserve.
5. Test and package the RIP for distribution to end users following your normal procedures.

Warning: Because of the complex structure of the CSS files, Harlequin does not recommend hand editing these files. Harlequin also suggests that you do not publish this procedure to end users.

1.2.2 Start-up files

During the RIP's start-up sequence a number of PostScript language files are interpreted and may install additional utility code. These are:

- `SW\Sys\HqnStart`
- `SW\Sys\HqnProduct`
- `SW\Sys\HqnPlatform`
- `SW\Sys\HqnOEM`
- `SW\Sys\Start`
- `SW\Usr\Start`

In addition, all files in the folder `\SW\Usr\ExtraStart` are run as part of the start-up sequence. You may occasionally be asked by Harlequin to add short PostScript language patches to this folder.

Please do not change `HqnProduct` or `HqnPlatform` in any way.

`sys\Start` and `usr\Start` are standard start-up files which are found on many, if not most, PostScript language compatible RIPs. Many applications which install PostScript code to be run at start-up assume that the files are present and may add code to them. A small percentage of these installers simply delete any existing file by one of those names and replace it with their own code. You should therefore not rely on any code you add to either of these files being available.

HqnOEM is provided explicitly for Harlequin OEMs to add their own code into. Harlequin will not add any significant code into the file and therefore it may be freely moved from revision to revision.

1.2.3 Options available in start-up files

There are a number of facilities which are included in the RIP but turned off by default. You can change such facilities by editing the relevant start-up file. Remember to be sure to edit PostScript language files using a text editor that will not change any none-printing characters which may be in a file, and which will not wrap long lines.

Font to substitute for missing fonts:

The RIP normally defaults to Courier if a font is requested and is not available. It is possible to define the font to be used in such circumstances.

Use code modelled on this sample to change to an alternative font – the *DefaultFont* entry should be replaced by the name of the required font.

```
$error /SubstituteFont { pop /DefaultFont } bind put
```

This code could be added in **Sys\HqnOEM**. It is also included in **Sys\HqnStart** (commented out).

Substituting fonts:

A font substitution mechanism is included in the RIP so that you can request that font Y be used if a job requests font X. To turn the mechanism on remove the commenting % character on one line in **HqnStart** (search for **Font Substitution**).

The substitution list is defined in **SW\procsets\HqnFontSubstitution** and this must also be edited – example substitutions are supplied commented out.

Please ensure that the fonts that you substitute for and with have similar structures. This is especially important if the facility is used with composite fonts where you must ensure that the two fonts have the same writing direction. In order to handle PostScript language from some applications it may be necessary to ensure that encodings and so on also

match. For Latin fonts (and the Latin leaf fonts of composite fonts) you will see incorrect output if the metrics of the two fonts are different.

Cancelling output of large pages:

When outputting from the RIP to most devices a message will be produced in the Monitor window if a page is requested which is too large for the current output device. It is possible to cancel output in these cases by simple changes to a start-up file. Open the file `sw\Proc-sets\HqnCassetteMunger` and search for the line:

```
false { % Change this line to abort jobs that are too big
```

and change the value `false` to `true`.

Beware that some jobs set the page size several times and that only the final size is actually used for output. If one of the earlier requests for a page size is too large then output may be suppressed unnecessarily.

1.3 Other customization files

If you use the Epson (ESC/P) or HPGL filters you can configure some aspects of the output by editing files in `sw\usr`:

- | | |
|--------------------------|--|
| <code>epsncust.ps</code> | This file allows you to switch color printing on and off, set left and top margins and define which fonts are to be used for Kanji output when using the ESC/P filter. |
| <code>hpglcust.ps</code> | This file allows you to define pen colors and widths when using the HPGL filter. |

Change history		
1.3	1996.04.16	Update for version 4.0
1.4	1996.05.16	Note that version 4.0 requires LHA_E rather than LHARC.

Change history		
1.5	1996.06.24	Add note on fixing up Page Setup file when copying it to change factory defaults.
1.6	2001.07.15	Updated from a word document. Major revision of contents so that information is relevant to version 5.5.
1.7	2004.04.06	Added new information for Eclipse Release RIPS.
1.8	2005.13.01	Added UIPreferences, GeneralPreferences and PSLocales information.
2.0	2007.09.26	Added EULA.txt, Font Emulation, Imposition Manager, and a note on Window Positions.



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