HARLEQUIN® multiRIP™

Release Notes

Contents

Harlequin® MultiRIP™ v11.0r4 Release notes

Global Graphics Software (GGSL) is pleased to announce the release of the Harlequin® MultiRIP™ v11.0r4 (HMR).

This release note contains the following information:

1 New features and improvements

This following improvements have been made to HMR v11.0r4

- Updated "PDF 2.0 support" on page 5.
- Added "Extensions for PDF optional content—373765" on page 6.
- "Updated Color Editor—371771" on page 7.
- Improved color documentation see the *"Extensions manual—Chapter 16"* (available soon).
- Added support for Windows Server 2016.
- Various fixes and maintenance improvements.

2 Notes about this release

This section contains notes about v11.0r4.

2.1 Procset changes

The following procsets have been changed between v11.0r3 and v11.0r4:

GGFontEmulation, HqnColorDatabase, HqnConfigureRIP, HqnMissingFonts, HqnNamedColorAPI and HqnPush Calibration.

2.2 PDF 2.0 support

The International Standards Organization is coming to the end of the development work on the next version of PDF, in the form of ISO 32000-2, which defines PDF 2.0. The standard is expected to be published in late Q2 or early Q3 2017.

The plan is that Harlequin 12, to be delivered around the end of 2017, will fully support those aspects of the new PDF 2.0 standard that are relevant for production printing, and we have already been working towards that for several months. PDF 2.0 support is anticipated to be a significant factor in upgrade sales to Harlequin 12.

There will inevitably be some settling-in time for the new standard as vendors of creator and reader tools identify any misunderstandings of the new text. We are, therefore, keen to allow our new work in Harlequin to be tested with PDF files from as wide a range of creation tools as possible before we get to the point of delivering it as production ready in v12.

To that end, the work done with PDF 2.0 features so far are added into Harlequin v11.0r4, so that if you have your own creator products that you are adding PDF 2.0 support into, or if you have any customers or partners doing the same, you can use v11.0r4 for initial testing.

We are also aware of the need to protect those customers using Harlequin for day-to-day production from the potential risks associated from using code that has been written to a specification, but not as widely tested as we would like because of the (not surprising) shortage of real-world PDF 2.0 files to test against. Therefore, we added a new layered option from v11.0r3, which will also apply to all future v11.0rx deliveries, to enable access to the PDF 2.0 features. A user who does not have that enabled in their RIP license will not be able to process PDF 2.0 files with this RIP version and not have the PDF 2.0 features applied.

The PDF 2.0 option is free and you should request it from sales admin in the same way that you would normally do for any layered option. You may apply it to your internal use licenses, and you may provide it to a small number of carefully selected customers. Please provide feedback (positive or negative), from testing Harlequin with PDF 2.0 files to martin.bailey@globalgraphics.com.

The PDF 2.0 option will not be available in Harlequin v12, because PDF 2.0 support will be a part of the base product (unless PDF support is not included in your licenses for contractual reasons).

In Harlequin v11.0r3 the following features were offered under the PDF 2.0 option:

- A PDF file using version 2.0 in its header or a Version key in the document Catalog with a value of 2.0 will no longer be reported as having an unexpected version.

- The HTO key to specify halftone origin.

- GGSL has implemented the AES-256 encryption described in the PDF 2.0 draft.

Note: that AES-256 in PDF 2.0 is not the same as AES-256 as specified in Adobe's Extension Level 3 document. That older AES-256 is known to be seriously flawed and has not been implemented. You should note that our PDF 2.0 work appears to have enabled Acrobat XI AES-256 for at least some sample files, but we are not sufficiently confident that it is a full implementation for those and, therefore, it is not officially supported. PDF 2.0 AES-256 is supported (with the PDF 2.0 option in v11.0r3).

In addition, a number of clarifications in the current PDF 2.0 draft standard have been implemented and apply to existing PDF versions as well.

The following PDF 2.0 features have been implemented in 11.0r4:

• UTF-8 encoding in text strings.

• Clarifications around the interaction of annotation flag values.

• New rules on inheritance of transparency color spaces.

The following additional PDF 2.0 features are planned for delivery in v11.0r5, and will be also secured using the PDF 2.0 option:

• Page level output intents.

• `UseBlackPTComp` gstate key to specify Black point compensation use.

• Clarifications to the processing of spot separations in an All color space.

2.3 Extensions for PDF optional content—373765

This PDF parameter allows you to fine tune which `OptionalContent` groups the RIP will print. The entries that can be used in the `OptionalContentParams` dictionary in a dictionary of PDF parameters are as follows:

/Config	(string, optional), specifies the name of an optional content configuration dictionary to use instead of /D. An error is reported if this OCCD is not in the job.
/Event	(/Print, optional), specifies that the /Print category from the Usage Dictionary should be applied for each group. This allows the RIP to emulate the manner in which Adobe Acrobat and other PDF file viewers (as defined by the PDF1.5 spec.) print PDF files with optional content. This is when Acrobat is printing (and not viewing), which is simulated by selecting the Acrobat layer option Apply Print Overrides. It is an error if the job does not contain the OCCD.
/ON	(array of strings, optional), the names (in string form) of optional content groups to show. A warning is issued if the OCGs are not found in the job.
/OFF	(array of strings, optional), the names (in string form) of optional content groups to hide. A warning is issued if the OCGs are not found in the job.

Note: /ON and /OFF can be used to override any previous effects of /D, /Config, and /Event.

/SuppressPage	(boolean, optional), if true do not show the job's non-optional content.

An example:

```
<<
  /OptionalContentOptions
  <<
    /Config (SpecialInk)
          % use the (SpecialInk) Optional Content Configuration dictionary
          % instead of the /D OCCD from /OCProperties in the /Catalogue dictionary
    /Event /Print
          % emulate Acrobat ApplyPrint Overrides
    /ON [(SpecialMarks)(CutLines)]
          % turn ON the (SpecialMarks) and (CutLines) groups, overriding the state
          % that was set by /Event and /Config.
    /OFF [(StaplePositions)]
          % turn OFF the (StaplePositions) group, overriding the state that was set
          % by /Config, /Event and /ON.
    /SuppressPage true
          % suppress normal page content
  >>
>> setpdfparams
```

2.4 Updated Color Editor—371771

The HMR Color Editor UI has been extended to provide control over the `/RelativeWhitePoint` value, which is only settable for a XYZ-D50 database.

This option can be used, for example, to represent the media white point of the Pantone swatch book(s). For more information see the *"OEM manual—section 13.1.4"* or the *"API Reference Manual— Chapter 2 Brand Color Editing"*.

2.5 RIP change to resolve an issue with PieHVD producing unexpected dimensions—375365

Fixed an issue with eHVD when `/OptimizedPDFPositionIndependent` is `true` and `/OptimizedPDFGridX` or `/OptimizedPDFGridY` are anything other than the default value of 1: a floating point rounding error meant that occasionally a raster element's width or height would not be an integer multiple of the corresponding grid size as intended.

There are two rules in the RIP code concerning the dimensions of HVD raster elements: first, that any given element should have dimensions which are exact integer multiples of the grid size (`OptimizedPDFGrid[XY]`) and second, that no element's bounds should exceed the containing page's bounds. This clarification's purpose is to formalize the precedence of these two rules: the second rule takes priority. That is, a raster element will never be larger than the overall page bounds even if the edges of the page do not coincide with integer multiples of the grid size. That means that, if `OptimizedPDFGrid` is not `1`, the grid cells along the edges may not be fully populated. It follows, then, that if an OEM's post-RIP processing requires that all grid cells are fully populated the raster must be suitably padded in the raster back end before delivery to that post-RIP processing.

2.6 LDK prevent entangling licenses—375894

We've recently discovered that it is possible to activate a full RIP Product Key in the LDKTool as if it were an enhancement to an existing license. In other words by entering it on the Update License dialog instead of the New License dialog. If this is done the resulting license on the user's computer may not work.

Our standing recommendation is that you should not activate multiple RIPs with different capabilities (resolution, plugins etc) on the same computer. If the licenses involved all have the same capabilities, they may work correctly. But even in that case adding any further enhancements to either of the

RIPs will probably not behave as expected, and neither will the **Check-a-Key** option in Harlequin LDK Ordering System.

It was not possible for this to occur with any activation performed before August this year.

A new version of the LDKTool is supplied with HMR v11.0r4 that prevents this from happening. We highly recommend that you include the new LDKTool in your own installers as soon as possible to avoid this situation arising at your customers' sites.

If you think any of your customers may already been affected by this, take a look at their licenses in **Check-a-Key** in the Harlequin LDK Ordering System. If that does not report the information that you would have expected, please contact our sales-admin team for assistance.

2.7 Naming and version numbering

The installer announces itself as "Harlequin MultiRIP". In the logfile, the RIP announces itself as "RIP Version 50.0 Revision 4 64-bit Edition".

Note: v50.0 Revision 4 represents v5.0r4 of the core RIP library.

2.8 Installation

It is important to note that you should install the RIP as Administrator and use it as User.

You should install any printers connected to the RIP as Administrator.

3 Plugins and utilities

Any plugins distributed with this release are supplied solely for use with the Harlequin MultiRIP v11.0r4.

The TIFF/IT output plugin is removed from the Additional plugins installer and is not supported in v11.0r0 (or later).

Note: The Harlequin MultiRIP will support OEM and third-party plugins using input and output, color management and screening APIs.

The following table lists the standard and optional plugins and the various utilities available with the Harlequin MultiRIP v11.0r4:

Availability	Plugin/Utility	v11.0r4	v11.0r3	v11.0r2	v11.0r1	v11.0r0
Standard	Migrate	8.0r2	8.0r2	8.0r2	8.0r2	8.0r0
Standard	Genlin	3.1r0	3.1r0	3.1r0	3.1r0	3.1r0
Standard	SetGold	5.3r0	5.3r0	5.3r0	5.3r0	5.2r0
Standard	LDK utilities	1.7.0	1.6r1	1.5r0	1.5r0	1.5r0
Standard	LDK Runtime	7.51	7.41	7.41	7.41	7.32
Standard	Socket	3.2r2	3.2r2	3.2r2	3.2r2	3.2r2
Standard	Spool folder	3.6r2	3.6r2	3.6r2	3.6r2	3.6r2
Standard	PDF Raster	1.4r2	1.4r2	1.4r2	1.4r2	1.4r2
Standard	Testdev (none)	3.2r3	3.2r3	3.2r3	3.2r3	3.2r3

Table. 1 Standard and optional plugins

Availability	Plugin/Utility	v11.0r4	v11.0r3	v11.0r2	v11.0r1	v11.0r0
Standard	TIFF	4.4r0	4.4r0	4.3r3	4.3r3	4.3r2
Standard	CRD Generator plugin	50.0r0	50.0r0	50.0r0	50.0r0	50.0r0
Standard	XPS PrintTicket Device	11.0r4	11.0r3	11.0r2	11.0r1	11.0r0
Optional	CIP3	1.6r0	1.6r0	1.6r0	1.6r0	1.6r0
Optional	OKI PCL C9650 laser printer	1.7r1	1.7r1	1.7r1	1.7r1	1.7r1
Optional	OKI C931/C941/C942	2.4r1	2.4r0	2.3r0	2.3r0	2.2r0
Optional	NT Pipe	1.1r2	1.1r2	1.1r2	1.1r2	1.1r2
Optional	Plugin Kit	20.2r4	20.2r3	20.2r2	20.2r2	20.2r1
Optional	vDot4 plugins for Epson Stylus Pro 4900, 7890, 7900, 9890, 9900					
Optional	vDot5 plugin for Epson SC-P6000, SC-P8000, SC-P7000 (SE), SC-P7000 (CE), SC-P9000 (SE), SC-P9000 (CE).	v5.04				

Table. 1 Standard and optional plugins

3.1 TIFF output plugin v4.4r0

An updated TIFF output plugin is released along with v11.0r3. You should note the following changes:

- An increase in the maximum resolution to 64000 dpi. Access to this resolution requires an update to your LDK protection key. Also note that when enabled this resolution does not appear in the drop-down menu; you must manually enter the value—(375468).

- The template options `</>` and `<\>` are added to allow you to include directory separators in the output path. Note that multiple separators can be included and the path is automatically created—375469.

- The default value for Compression is set to `Packbits`—(375470).

Note: Migrate will not change the compression mode in any pre-existing page setup.

3.2 Plugin kit—v20.2r4

A new plugin kit v20.2r4 is released with HMR v11.0r4.

The main changes are:

- updates to the named color database and

- a change that 64-bit plugins are now built as the default.

A new plugin kit v20.2r3 was released with HMR v11.0r3.

The main changes from 20.2r2 (issued with HMR 11.0r1) are:

- the CMM examples have been reorganized and documentation improved

- the CMM plugins now include an M->N custom color space example
- the addition of a new CMM example plugin that preserves pure colors.

4 Supported operating systems

The Harlequin MultiRIP v11.0r0 (or later) is formally supported on the following operating systems:

	Windows
64-bit	Windows 7 SP1 (excludes Starter edition)
	Windows 8.1 SP1 (excludes Windows RT)
	Windows Server 2008 R2
	Windows Server 2012 R2
	Windows 10 workstation (excludes Windows Mobile and Mobile Enterprise, embedded and IoT Core)
	Windows Server 2016 (new in 11.0r4)

Table. 2 Supported operating systems

Note: HMR v11.0r0 (or later) is 64-bit only; it is not supplied as 32-bit.

Note: On Windows Server 2012 R2, if HMR is not installed in the default directory, but for example, on a second disk, you have to right-click the executable and select Run as Administrator in order for it to run.

Note: If you try to activate the LDK on Windows 7 without SP1 the error `failed to setup extended errors` is generated. It is recommended that you update the operating system by applying SP1. Alternatively, see http://support.microsoft.com/kb/975858/en-us. You could, if you wish, use a different machine for the activation. The same error is possible on Windows Server 2008 R2.

5 SOAR support

HMR v11.0r0 (or later) supports the SOAR host, job-logger and ROAM server.

6 Documentation change details

This section contains details of the various documents which have been created or updated for v11.0r4:

Document	Status	Format
Release Note (this document)	Updated	PDF

Table. 3 Documentation changes

Note: Further documentation will be available after the release.

Documentation is available on the support FTP site at: http://support.globalgraphics.com/login.html. Go to: **/HQN_Common/HMR_Doc/**.

Note: All technical notes are located at: **/HQN_Common/HMR_Doc/Technical_Notes/**.

7 Notes about v11.0r3

This section contains notes about v11.0r3.

7.1 Procset changes

The following procsets have been changed between v11.0r2 and v11.0r3:

HqnAssert, HqnColorDatabase, HqnHalftoneUtilities, HqnNamedColorAPI and HqnPageSetupConf.

7.2 Unicode passwords—375027

For HMR v11.0r3 the provision of a password for printing a secured PDF is unchanged in the fact that the HMR UI will add any necessary BOM (Byte Order Mark) to a password without one.

In other words, PDF passwords that do not start with a Unicode BOM will be completely unaffected, but that RIP behavior will change for those passwords that do have a BOM.

Note that PDF 2.0 adds a "revision 6" encryption algorithm which means that all passwords for revision 6 shall be based on Unicode. Preprocessing of a user-provided password consists of normalizing its representation and then converting the string to a UTF -8 encoding. It is then truncated to the first 127 bytes if the string is longer than 127 bytes.

This means that more characters of a password can be used (how many depends on how the PDF has been encrypted) and the RIP will now better handle non-ASCII characters.

Note: This functionality is available as standard with v11.0r3; it does not require a PDF 2.0 license.

7.3 Pantone Plus database—373742/374441

112 new colors from the January 28th 2016 update to the PLUS SERIES of the PANTONE MATCHING SYSTEM® are added to the PantonePLUSCoated and PantonePLUSUncoated named color databases.

In addition to this, the Pantone XGC (Extended Gamut Coated) names are added to the named color databases.

7.4 Updated CMM API—375337

From v11.0r3 The CMM API has been updated to version `SW_CMM_API_VERSION_20160819`. The interface has been extended with an `open_transform2()` method which behaves similarly to `open_transform()`, but passes the additional information of object type, color model, and whether the transform is producing output color or whether it is part of transparency compositing. If the alternate CMM implements `open_transform2()`, it will be called in preference to `open_transform()`.

For more information see the *"API Reference manual— section 1.3.8"*.

7.5 HVD and OPI—375708

The incompatibility between the use of HVD and OPI at the same time is removed.

8 Notes about v11.0r2

This section contains notes about v11.0r2.

8.1 Procset changes

The following procsets have been changed between v11.0r1 and v11.0r2: DCSCommentParser, GGFontEmulation, HqnContour, HqnFontConverter, HqnHVDParams, HqnImpose2, HqnLayout, HqnPageSetupConf, HqnPushCalibration.

The following procset is new in v11.0r2: HqnWhite.

8.2 Color-Logic metallic designs—371663

Color-Logic Inc produce technologies that support graphic artists in designing work that uses various metallic effects. That work can then be printed on conventional presses using silver ink, but it can also be printed on a digital press that includes an opaque white colorant onto a pre-coated silver-colored media. In essence the "silver" channel in the job is printed in negative using the white colorant, so that the silver media only shows through where the job requested silver.

A framework has been added to v11.0r2 as the HqnWhite procset which can be called from your code around the RIP so that you can add support for Color-Logics graphics to your own devices.

An example of the calling code is shown below:

```
<<
 /SourceColor [
 (CL 4713 SILVER) % Color-Logic
 (SILVER)
 (ARGENT) % French
 (ARGENTO) % Italian
 (SILBER) % German
 (PLATA) % Spanish
 (PRATA) % Portuguese
 ]
 /ForceUpperCase true
 /DeviceColor /SpotColor_White % This must match a colorant name on the device ...
 /BlankWhite /Warn
>> /HqnWhite /ProcSet findresource /InitWhite get exec
```

In HMR this code would be called from plugin PostScript language code. It can also work as a page feature.

For details on the **HqnWhite** procset see the *Extensions manual—Appendix C9.*

Note: The **HqnWhite** procset is not currently compatible with Harlequin VariData.

Note: The procset is compatible with in-RIP imposition; but only when no more than one sheet is produced.

8.3 Tri-state for option for /EnableOptimizedPDFScan—368049

From v11.0r2 the PDF parameter `/EnableOptimizedPDFScan` can be set to `true` or `false` or `/Always`, `/Never`, and `/Auto` when set in the call to `pdfexec`. Previously those values could only be set from `setpdfparams`. Therefore, from v11.0r2 setting `/EnableOptimizedPDFScan` using `pdfexec` has the same effect as setting it using `setpdfparams`.

In addition to this, `pdfexecid` can now only specify `PageRange`, all other parameters have to be set in `pdfopen`.

Other parameters result in a warning from the RIP. `PageRange` is optional in `pdfexecid`; if not specified, the value from `pdfopen` or `setpdfparams` is used.

If no page range is specified in `pdfopen` or `setpdfparams`, the whole job is interpreted.

Note: The name values were added in v11.0r1; prior to that only the boolean values could be used.

For more information see the *Extensions manual—Section 14.12*.

8.4 Harlequin VariData GUI option—368049

The check box previously available in v11.0r1 is changed to a drop-down menu. The options in this menu allow you to disable and enable HVD and to set Auto mode. The options are as follows:

`Never`	When selected the HVD optimization is turned off.
`Always`	When selected the HVD optimizations are enabled and all PDF documents are scanned. Any PDF file with pages that share raster elements and have marks which change from page to page should be accelerated by this optimization. The RIP scans the PDF for such pages, RIPs the shared raster elements once, and then retains them for use on subsequent pages with the same page elements.
`Auto`	When selected a procset called **HqnHVDParams** contains a procedure which sets the PDF HVD scan based, for example, on any of the following:

—PDF/VT tag in the metadata dictionary,

—Creator or Producer key in the info dictionary,

—CreatorTool or Producer key in metadata dictionary.

When set to automatic mode and a PDF file is submitted the RIP will:

—Scan the document-level metadata and determine if the file is tagged as a PDF/VT file. If so it will process the file as if the Use Harlequin VariData option had been set to `Always`.

—Look at the producer and creator strings in the document info dictionary and their equivalents in the document-level metadata and compare those with values in a look-up table of strings used by common VDP composition tools. If the strings match, the file is processed as if the Use Harlequin VariData option had been set to `Always`; if they don't, it acts as if the Use Harlequin VariData option had been set to `Never`.

8.5 Move Auto HVD Creator table to \SW\Usr—368049

From v11.0r2 the producer/creator look-up table is available in a PostScript language file called **HqnVariableDataCreators** found in **\SW\Usr**. This file can be edited to add extra creators or names of procedures. If extra names of procedures are added they must be defined in the HqnHVDParams procset.

The current creators such as `(PageFlex)`, `(GMC PrintNet T Triple Suite)` and `(XMPie)` and the current names of procedures such as `/eq` and `/ContainsString` are examples only.

This PostScript language file returns a dictionary. The keys of the dictionary are names of procedures for matching the known variable data creator strings to the value for creator or producer found in the metadata or info dictionary. Corresponding values of the dictionary are arrays of strings of known variable data creators.

`HqnVariableDataCreators` is read from the **HqnHVDParams** procset. Safety code is provided which produces a warning for incorrect stack handling or type of returns.

Note: In v11.0r1 the producer/creator look-up table was located in the **HqnHVDParams** procset.

For more information see the *Extensions manual—Section 14.12*.

8.6 Font hinting—370340

Font hinting is the process by which fonts are adjusted for maximum readability on computer monitors. In some cases, poor output is produced or errors triggered because the hinting in some fonts may be broken.

To overcome issues with font hinting v11.0r2 provides a **\SW\Sys\ExtraStart** file called **FontOverrides**. This allows you to define an array of TrueType font names (PostScript language names or strings) for which hinting will be ignored. For example:

```
statusdict /FontOverrides <<
   /IgnoreTrueTypeHinting [
     % Add font names here to ignore hinting
   /IgnoredFont1
   (IgnoredFont2)
>> put
```

A monitor message is issued when any of these fonts occur in jobs, providing confirmation that hinting is being ignored.

As an aid to identifying fonts to potentially add to this list the relevant warning messages have been extended to include the font name:

```
%%[ Warning: Ignoring invalid hinting in TrueType font: <fontname> ]%%
%%[ Warning: Error during glyph hinting: <fontname> ]%%
```

8.7 ImmediateRepro—374972

Please note that the `ImmediateRepro` parameter is deprecated in v11.0r2. It will be removed in a future release.

8.8 Separations key—374692

The /Separations key has been removed. Separations should be controlled using the `/SeparationColorNames` and `/SeparationOrder` keys in the page device or the RIP GUI.

9 Notes about v11.0r0 and v11.0r1

This section contains more detailed notes about this release.

9.1 Security

HMR v11.0r0 (or later) does not support HLS security, and won't run with your existing SuperPro dongles.

Because v11.0r0 (or later) is a major upgrade it requires enabling in your RIP licenses.

All demo LDK licenses created from August 2015 automatically includes support for v11.0r0 (or later). Alternatively, you can upgrade your existing demo licenses.

9.1.1 Timed software licenses (demo RIPs)

A demonstration RIP can be supplied with a timed software license. Alternatively, a RIP can be supplied with a watermarked license, which is timed and has a watermark and drop-dead date. A RIP of this type is for evaluation purposes only.

The date at which a watermarked RIP will cease to work is 2nd March 2017.

9.2 Naming and version numbering

The installer announces itself as "Harlequin MultiRIP". In the logfile, the RIP announces itself as "RIP Version 50.0 Revision 1 64-bit Edition".

Note: v50.0 Revision 1 represents v5.0r1 of the core RIP library.

9.3 Plugin kit v20.2r2 (or later)

To build plugins for use with HMR 11.0r1 you must use MSVC 2013.

Note: Run Length Encoding (RLE) is not supported in v20.2r1 (or later) of the plugin kit.

9.4 DroidSansFallback font

The DroidSansFallback font is present in **\SW\CIDFont** but is not used by the SDK. This DroidSans-Fallback font is provided as a substitute fallback font and will be removed in a future release. Please inform Global Graphics if this will cause you an issue.

9.5 Procset changes

The following procsets have been changed between v11.0r0 and v11.0r1:

HqnCalibrate, HqnColorDatabase, HqnLocal and HqnTrap.

The following procsets are new in v11.0r1:

HqnContour, HqnHalftoneUtilities and HqnHVDParams and HqnNamedColorAPI.

The following procsets have been changed between HMR v10.1r2 and v11.0r0:

HqnCalibrate, HqnColorBar, HqnColorDatabase, HqnControl, HqnErrorHandler, HqnExternalFile, HqnFontConverter, HqnImpose2, HqnInputTypes, HqnLayout, HqnLocal, HqnMedia, HqnMissing-Fonts, HqnNamedColor, HqnPageSetupConf, HqnParseComments, HqnPDFPages, HqnPushCalibration, HqnUNC.

The following procset is removed from v11.0r0:

HqnFilterPipeline.

9.6 RIP monitor messages

You may notice that the RIP monitor messages change depending on the type of job being processed. This is because of internal optimizations.

The RIP analyses the graphics on the page to determine whether single-pass or two-pass rendering would be faster and automatically switches the rendering mode. Single-pass rendering combines compositing and opaque rendering into one pass which optimizes a write/read of all the composited data. For single-pass rendering the print time includes the compositing time.

9.7 Auto mode for HVD—368049

From v11.0r1 both internal and external HVD optimizations can benefit from running in auto mode.

Both the `/EnableOptimizedPDFScan` parameter and the location of producer/creator lookup table has been updated in v11.0r2. Therefore, see "Tri-state for option for /EnableOptimizedPDFScan—368049" on page 12 and "Move Auto HVD Creator table to \SW\Usr—368049" on page 13 for the latest information.

For more information see the *Extensions manual—Chapter 14*.

9.8 Screen selection for spot colors—372770

Before v10.0r1 only the Default screen was available for spot colors. From v11.0r1 you can select either a C, M, Y, K or the Default screen.

The Enable screens for spot colors option only becomes available when HDS and Threshold screens (such as HXM) are selected and when a spot color is added as a color separation by using the **New** button. The Screen drop-down menu is only enabled when the spot color is selected in the dialog and now contains a Default screen as well as the process colors.

When **Enable screens for spot colors** is unchecked the RIP reverts to its previous operation. That is, only the Default screen is used for a spot color.

Because this only applies to Threshold and HDS screens, it does not apply to Core Module screens. If a modular screen is selected for a spot color, the RIP ignores the selection.

For more information see the *OEM manual section 3.7.2* and *6.11.4*.

9.9 OverprintBlack—373131

The application of `OverprintBlack` is based on input color values. Output colors that are 100% black after color management but do not have 100% black input values are not affected by `OverprintBlack`.

When `true`, any solid black object (except solid black pixels of images) will be overprinted, regardless of the whether overprinting is turned on. When `false`, overprinting will only occur as for any other process color.

`/Knockout` is the same as `true` except that the `/Knockout` parameter forces objects to knockout regardless of the setting of the overprint flag at the time an object is created.

See the *Extensions manual—section 5.6.3.1* for more information.

9.10 Alternate color management (CMM) API—373152

A change has been made to custom CMM color spaces. An issue was found in the implementation of `open_transform()`, leading to the profiles parameter now being interpreted as an array of `sw_cmm_profile`, which matches the API. It was previously interpreted as simply `sw_cmm_profile`. The alternate CMM example for custom CMM color spaces has been updated. This was also fixed in v10.1r2.

9.11 OptimizeSetPageDevice—373210

A new PDF parameter, `/OptimizeSetPageDevice`, has been added to control how the PDF interpreter issues `setpagedevice` calls. The values this parameter can take are:

`true`	The PDF interpreter will not issue a `setpagedevice` call between pages if no relevant parameters change (e.g., page size, rotation, etc.). This is the default value, and matches the behavior of previous RIP versions.
`false`	The PDF interpreter will always issue a `setpagedevice` call between pages. Setting this option will be slower, but also allows the `SensePageDevice` hooks to be run on every page to modify the page or media handling.

9.12 New monitoruid files and csv—373382

Improved reporting of errors with unique IDs using monitor events has been implemented.

Two files are supplied: **\doc\monitoruids.html** and **\doc\monitoruids.csv** which provide additional detail about the meaning of each error report. Note that not all errors are documented and work in this area is ongoing.

For more information see the *HHR Developer's Guide—section 6.1* in particular the `clrip -! 3` option and the *API Reference—Chapter 5 "RDR and Event APIs"*.

9.13 New PDF parameter to ignore page group—373571

A change is made in v11.0r1 to the RIP's handling of PDF/X files to improve the way the RIP handles the output intent in files that do not contain a page group. This change means that the output color may change slightly, that implicit overprinting may no longer happen in some cases, and that more transparency compositing may be used. The last of these means that RIP speed is reduced for some jobs, including for PDF/VT jobs, because PDF/VT files are always also PDF/X compliant. The change can be disabled by setting the `IgnorePageGroup` PDF parameter to `/ProcessColorModel`.

The `IgnorePageGroup` PDF parameter (a string) controls whether to honor or ignore a page group within the job (the page group is optional and defined by the PDF specification).

It can take the following values:

`/None`	(the default). Behave as now.
`/All`	Ignore all page groups in the job.
`/ProcessColorModel`	Ignore those page groups in the job whose CS entry matches the process color model. The process color model can only be device spaces, that means that group color spaces of ICCBased will not be ignored.

This parameter may also be specified in the parameter dictionary to `pdfexec` and `pdfexecid`.

9.14 The Harlequin Contour Processor (HqnContour procset)—373840

The Harlequin Contour Processor can be configured to identify certain colors or color spaces within a PostScript language file or PDF job submitted to the RIP, and to export contours painted in those colors or color spaces to a separate file.

From Harlequin v11.0r1 the Harlequin Contour Processor can suppress technical separations and export them to either PostScript language files or HPGL.

Harlequin Contour Processor is an extra cost layered option. It also requires a license for HDLT (Harlequin Display List Technology), which is automatically included in LDK license parts for the Harlequin Contour Processor.

This functionality is also be useful for wide format plotter/cutters, and for any other environment where custom cutting is required.

For more information see the *Extensions manual—Appendix C.10*.

9.15 Brand color editor GUI and API—370903

When a job containing a spot color is printed on a CMYK device—or to CMYK or CMYKOG (for example) including spots as well as process separations for something like an offset press—the appropriate equivalent CMYK values are obtained from either:

- the alternate space in the spot color definition in the PostScript language or PDF

- a NamedColor lookup table.

For commonly used colors the NamedColor route is preferred, because many tables are provided for a lot of Pantone colors in XYZ, meaning that they can be transformed through the output profile for the device/media resulting in a better match to the "real" Pantone inks than a CMYK value calculated for some (more or less) random printing condition.

There are, however, certain instances where perhaps the match from the RIP is not quite as good as it might be on some media or you don't actually want an accurate match for other design reasons.

Note: The Use Pantone PLUS option is removed from the ColorPro user interface as part of the implementation of Harlequin Color Editor. You now control this option by using the Harlequin Color Editor to add or remove the Pantone PLUS databases from the Intercept Named Color Order list.

Note: To facilitate this the Harlequin Color Editor and API is added to the RIP to allow modification (or to override), the spot color lookup tables to achieve a more desirable result.

Note: The **\SW\NamedColorOrder\PantonePLUS** and **\SW\NamedColorOrder\PantoneStandard** files are removed because the brand color editor API is used instead.

For more information see the *OEM manual section—13.1.4*.

9.16 LDK runtime update—374262

v11.0r1 is supplied with an updated LDK runtime (v7.41) which should be installed. Note that the LDK runtime version for v11.0r0 was v7.32.

9.17 SetGold/SetGold pro v5.3

From v5.3 the golden state target (**Golden.PS**) uses 100 patches and has four pages. It is recommended that SetGold/SetGoldPro v5.3 is used with HHR v11.0r1.

9.18 AllowColorManagement key—372931

The values used in NamedColor databases defined in DeviceCMYK has always been interpreted as matching the CMYK input characterization identified in ColorPro and has therefore been color managed as such. In v11.0r0 a new optional key, /AllowColorManagement is added to the named color database dictionary. This key controls whether color management may be applied to spot colors converted to their alternate space by a named color interception.The key is optional and if not present defaults to true.

Note that defining a NamedColor database using a DeviceN color space containing four channels matching CMYK could be used in HMR v10.0 and earlier to avoid color management of the database

results. From v11.0r0 those DeviceN values would be color managed in the same way as DeviceC-MYK.

If your named color database uses HqnColorDatabase, you should add a new optional key, `/AllowColorManagement false`. Similarly, if your named color database is defined directly as a Post-Script language resource, the same optional key should be added to the resource dictionary.

For more information see *Extensions manual—Appendix C9.*

10 Change details

Below is a list of the changes made between HMR v11.0r3 to HMR v11.0r4. The table is uncategorized, in numerical order:

Reference	Description
371771	HqnColorDatabase procset should store any RelativeWhitePoint in CIEBasedABC colorspace for XYZ-D50 (fix for tints). Changes made to the HqnColorDatabase procset.
373076	Implement a fix to prevent Trapping leaks as identified by a specific customer (SW Call #12467). Changes made to the RIP binaries.
373765	Implement Optional Content requirements. For more information see "Extensions for PDF optional content—373765" on page 6. Changes made to the RIP binaries.
374806	Fixed an issue where some marks would be incorrectly omitted when using eHVD in a configuration which includes the use of /ImagingBBox in setpagedevice in order to render a limited area of the page as defined in the job (HHR Support #1836). Changes made in the RIP binaries.
374863	Add support for Color-Logic metallic prints in OKI C941 and C942 plugins. Changes made to the plugin code.
374873	Implement a fix for the case where a Separation /All object that contained a color defined in a NamedColor database showed a regression in separation omission when the RIP configuration used /OverprintPreview /SpotsOnly. (HHR Support #1863). Changes made to the RIP binaries
375034	Implement inheriting a colorspace for a transparency group from an ancestor (PDF 2.0) Changes made to the RIP binaries.
375035	Implement clarifications to interactions between PDF annotation flags in PDF 2.0 standard. For more information see "PDF 2.0 support" on page 5. Changes made to the RIP binaries

Table. 4 Changes made for Harlequin MultiRIP v11.0r4

Reference	Description
375044	Relax HXM license resolution limits so that; a1500 dpi HXM license enables use at all resolutions up to and including 1500 dpi; a 3000 dpi license enables use at all resolutions up to and including 3000 dpi; a 5100 dpi license enables use at all resolutions up to and including 5100 dpi. Make changes to RIP security.
375182	Extend Color Editor and HMR UI for RelativeWhitePoint. See "Updated Color Editor—371771" on page 7. Changes made to the named color API.
375255	Implement a change in the RIP to handle badly formed customer supplied PDFs using JBIG2 compression which caused buffer overflow in end of stripe handling (HHR Support #1904). Changes made to the RIP binaries.
375257	Fix 16-bit PNG differencing predictors to prevent corrupt output of customer supplied image with "Predictor" for Flate encoding (SW Call #124499). Changes made in RIP binaries.
375365	Make a change so that pieHVD does not produces incorrect dimensions with a customer supplied file (HHR Support #1945). For more information see "RIP change to resolve an issue with PieHVD producing unexpected dimensions—375365" on page 7. Changes made to the RIP binaries.
375446	Add monitor UIDs to messages from HqnMissingFonts procset to prevent incorrect error message (HHR Support #1884). Changes made to the RIP binaries and HqnMissingFonts procset.
375474	Create vDot5 plugin for Epson Printers. Changes made to the RIP plugin.
375526	Support HMR and HHR on Windows Server 2016.
375550	Implement a change to allow for a premature EOF encountered in a badly formed embedded PFB file supplied by a customer. That is, the RIP treats an unexpected EOF as a correctly formed and placed EOF in PFB fonts (HHR Support #1957). Changes made to the RIP binaries.
375586	Extend watermark drop-dead date for v11.0r4 to 28th Feb 2018. Changes made to RIP security.
375713	A customer issue where a PDF file with transparency outputs to a blank page is fixed by "375114" on page 24 (SW Call #123755). Changes made to the RIP binaries.
375794	In PDF options > PDF Types reword "Any PDF <= 1.7 as basic PDF" to "Treat as baseline PDF". Changes made to the RIP GUI.

Table. 4 Changes made for Harlequin MultiRIP v11.0r4

Reference	Description
375813	Emulate Acrobat's behavior for PDFs that do not comply with PDF specification on optional content. Changes made to the RIP binaries.
375851	The make files for the HMR plugin kit now build 64-bit plugins by default. Changes made to the plugin kit.
375871	Update to latest Windows LDK runtime for continued LDK compatibility with the latest updates to Windows 10. Changes made to RIP security.
375894	A new LDKTool is supplied, which will prevent entangling licenses by activating a new RIP Product Key as an enhancement to a previously activated RIP. For more information see "LDK prevent entangling licenses—375894" on page 7. Changes made to the RIP security
375906	Update Japanese localization for 11.0r4. Changes made to the RIP GUI.
375943	Implement improvements to interactions between eHVD and reference XObjects as a fix for an issue with HVD and external objects—which resulted in the objects being omitted (HHR Support #1993). Changes made to the RIP binaries.
375961	An issue where an external PDF file is not found unless it is in the same directory as the main PDF file or in SW/OPI is fixed by an update to the documentation. See the Extensions manual (issue 523 or later) section 3.1.4 and 3.3 "PDF Reference XObjects" (HHR Support #1993). Changes made to the documentation.
375962	Make a change to allow the encryption of resources as the SW directory is built. Changes made to the build system.
375965	Previously, the installers for HMR and HHR created shortcut entries for the Windows Start Menu in the form: "Global Graphics\<Product Name>\<Program Name>". Because Windows 8.1 and Windows 10 does not support nesting names more than one level deep, the above path becomes: "Global Graphics\<Program name>" To avoid this the leading "Global Graphics" is removed, so this entry would become: \<Product Name>\<Program Name> Note that this also affects the Start Menu layout on Windows systems where the "classic" Start Menu functionality is still available. Changes made to the installer.
375972	Update installer generation tool to InstallAnywhere 2015. Changes made to the installer and unloader code.

Table. 4 Changes made for Harlequin MultiRIP v11.0r4

Reference	Description
375974	Implement a fix for a barcode font issue identified as a regression on a customer supplied file (HHR Support #2017). Changes made to the RIP binaries.
375997	Implement optional content improvements. For more information see "Extensions for PDF optional content—373765" on page 6. Changes made in the RIP binaries.
376101	Incorporate v1.7r0 of the LDKTool including v7.51 of the LDK runtime. Changes made to the installer
376136	Make a change to allow good output with a customer supplied font which specified all zeroes for the bounding box parameters for the font cache. We did a change that enables us to produce good output despite this issue with the font. (HHR Support #2044)
376230	Update product components and warehouse build files as needed for the HMR 11.0r4 and HHR 11.0r4 releases. Changes made to RIP 11.0r4 LDK Utils 1.7r0.

Table. 4 Changes made for Harlequin MultiRIP v11.0r4

Below is a list of the changes made between HMR v11.0r2 to HMR v11.0r3. The table is uncategorized, in numerical order:

Reference	Description
368356	Rework Black Point Compensation to the ISO specification. Changes made to the RIP binaries.
369066	Expand HDS screen sets for 7 process colors. Changes made to the RIP binaries.
369149	Implement a change so that when "no color management" and "Override black generation in job" options are selected correct output is produced (SW Call #123196). Changes made to the HqnPageSetupConf procset.
370080	Make improvements to the Harlequin Color Editor. Changes made to the Harlequin Color Editor API.
370149	Support relevant parts of ISO 32000-2 (PDF 2.0). Changes made to the RIP binaries.
373742	Add Pantone XGC (Extended Gamut Coated) names to the named color databases. Changes made to the named color databases.
374147	Improve HVD performance (HHR Support #1691). Changes made to the RIP binaries.

Table. 5 Changes made for Harlequin MultiRIP v11.0r3

Reference	Description
374195	Because of a customer issue where using the /Black and /BlackTint keys in color configuration code did not produce expected results, a RIP change is made so that OverprintBlack is disabled for device independent colorspaces including for Indexed colorspaces with a device independent base space and for uncolored patterns with a device independent base space, (but not for DeviceN /Separation spaces with a device independent alternate colorspace). This means that the background will be knocked out and foreground colors will *not* be reduced to black only (SW Call #124208). Changes made to the RIP binaries.
374441	112 new colors from the January 28th 2016 update to the PLUS SERIES of the PANTONE MATCHING SYSTEM® are added to the PantonePLUSCoated and PantonePLUSUncoated named color databases. Changes made to the named color databases.
374643	Implement a fix so that the Headless RIP does not go into an infinite loop when a printer error is encountered (SW Call #124369). Changes made in the core GUI.
374661	Add framework and include double-dot HDS screens in RIP deliveries. Changes made to the SW directories.
374798	Enhancements to the Harlequin Color Editor and named color API. Change "Force upper case" check-box to "Ignore case when matching job separations" and set the job name to the color name, include the job name and database name on the target output. Changes made to the RIP GUI, named color API and HqnNamedColor procset.
374836	Implement a fix for a customer issue using a CMYKO devicelink setup which produced unexpected results (SW Call #123755). Changes made to the RIP binaries.
374880	A RIP change was implemented to provide override information in the font down loading process. This allowed a customer supplied font to work, because the RIP now ignores misleading information contained within. (HHR Support #1864). Changes made to the RIP binaries.
374962	Implement a RIP fix so that a customer supplied file, when run with a setting of /Separation /None in /ColorSpace, does not cause the RIP to hang (SW Call #124440), (SW Call #124452). Changes made in the RIP binaries.
374982	Make a RIP change so that when compositing an isolated transparency group into its parent, it should Knockout (HHR Support #1875). Changes made to the RIP binaries.
374995	Add capability for specifying halftone origin (PDF 2.0). Changes made to the RIP binaries.

Table. 5 Changes made for Harlequin MultiRIP v11.0r3

Reference	Description
374999	Implement code to handle %!PDF-2.0 header. Changes made to he RIP binaries.
375027	Store passwords as UTF-8. For more information see "Unicode passwords—375027" on page 11. Changes made to install and build files.
375032	Make a change so that the RelativeColorimetric rendering intent is used if the rendering intent requested is invalid. Changes made to the RIP binaries.
375065	Updated HVD scanning to take account of values new to PDF 2.0. Changes made to the RIP binaries.
375067	As part of PDF 2.0 make a change to allow a SpotFunction to be an array as well as a function and name. Changes made to the RIP binaries.
375104	Update watermark drop-dead date to 1st Dec. 2017. Changes made to RIP security.
375114	Make a change to correct a group elimination error so that a missing shaded fill is printed correctly (HHR Support #1894). Changes made to the RIP binaries.
375134	Secure PDF 2.0 features against the /PDF2 system parameter. For more information see "PDF 2.0 support" on page 5. Changes made to the RIP binaries.
375220	Implement a fix for a crash which occurred when outputting 50K chunks of a customer supplied file with eHVD and PieHVD. Changes made to the RIP binaries.
375243	Integrate ICU 57 library. You should note that the SW/Unicode/icudt34l.dat file is replaced by icudt57l.dat. Changes made to the Unicode and installer files.
375259	Implement a change so the RIP can handle a badly formed customer supplied PDF 1.6 file which caused the error: %%[Error: undefinedresult; OffendingCommand: sh(PDF) (SW Call #124508), (SW Call #124519). Changes made to the RIP binaries.
375333	Implement a RIP change to handle an issue where a hole appears in a shaded fill in a customer supplied file (HHR Support #1934). Changes made to the RIP binaries.

Table. 5 Changes made for Harlequin MultiRIP v11.0r3

Reference	Description
375337	The CMM API has been updated to version SW_CMM_API_VERSION_20160819. For more information see "Updated CMM API—375337" on page 11 and the "*API Reference manual — section 1.3.8*". Changes made to the RIP binaries.
375468	Increase the maximum resolution of the TIFF output plugin to 64000 dpi (SW Call #124236). For more information see "TIFF output plugin v4.4r0" on page 9. Changes made to the TIFF output plugin.
375469	Add the template options </> and <\> to the TIFF output plugin. For more information see "TIFF output plugin v4.4r0" on page 9. Changes made to the TIFF output plugin.
375470	Change the default Compression value in the TIFF output plugin to Packbits. For more information see "TIFF output plugin v4.4r0" on page 9. Changes made to the TIFF output plugin.
375619	Mark Job Completed message with UTF-8 BOM so that Japanese job names are not corrupted in the Job Completed monitor message (SW Call #124580). See also "Unicode passwords—375027" on page 11. Changes made in the RIP binaries.
375645	Update Japanese localization for v11.0r3. Changes made to the localization and message files.

Table. 5 Changes made for Harlequin MultiRIP v11.0r3

Below is a list of the changes made between HMR v11.0r1 to HMR v11.0r2. The table is uncategorized, in numerical order:

Reference	Description
305773	Implement PDF 1.7 PDF extensions level 3. Upgrade to openssl 1.0.2g and Encryption - AES-256.v See "PDF 2.0 support" on page 5. Changes made to the RIP binaries.
368049	Change HVD GUI item from a check box to a drop-down menu with "Always", "Never" and "Auto" selections. For more information see "Harlequin VariData GUI option—368049" on page 13. Also Move Auto HVD Creator table to \SW\Usr. For more information see "Move Auto HVD Creator table to \SW\Usr—368049" on page 13. Changes made to the RIP binaries.
368316	Implement a fix for a customer supplied example of font emulation appearing incorrect (SW Call #122913). Changes made to the GGFontEmulation procset.

Table. 6 Changes made for Harlequin MultiRIP v11.0r2

Reference	Description
370340	Added an ExtraStart file to allow the definition of a list of fonts for which hinting should be ignored. For more information see "Font hinting—370340" on page 14. Changes made to he RIP binaries.
371483	The rendering of overprinted spot colors has been modified in "emulation style" color setups to improve the emulation part of the transforms (rework) (HHR Support #1356, SW Call #123755). Changes made to the RIP binaries.
371663	Provide support functions for Color-Logic metallic prints by adding the HqnWhite procset. For more information see "Color-Logic metallic designs—371663" on page 12. Add HqnWhite procset.
373382	Extend coverage of core RIP errors with unique IDs for Monitor Events. For more information see "New monitoruid files and csv—373382" on page 17. Changes made to the RIP binaries.
373710	Implement a fix for an issue caused when an image and smask are rotated 45 degrees when using a specific customer supplied setup (SW Call #124201). Changes made to the RIP binaries.
373780	Make a change so that a spot color overprint preview honors the ink limits in a final-stage device-link (SW Call #123755, HHR Support #1356). Changes made to the RIP binaries.
373840	Implement minor changes for consistency in parameter validation and error message formatting. Changes made to the HqnContour procset.
373959	Implement a fix for a RIP issue that occurred when Named Colors were intercepted to the None separation (HHR Support #1729). Change made to the RIP binaries.
373981	Make a change to avoid the 100% solid special-case for screens that don't actually go up to 100% and improve caching of mixed screens. Changes made to the RIP binaries.
374147	Improve HVD performance (HHR Support #1691). Changes made to the RIP binaries.
374170	The HqnPushCalibration procset is changed to trust the caller's ColorSpace in ReadTarget. Changes made to HqnPushCalibration procset.
374185	Remove deprecated /Separations key to fix an error in a customer supplied screening setup (HHR Support #1760). Changes made to the RIP binaries and the DCSCommentParser procset.

Table. 6 Changes made for Harlequin MultiRIP v11.0r2

Reference	Description
374217	Update HqnContour so that if one of the named colors is used for images, smooth shades or text it will not be rendered using either its own separation, or emulated in process colorants.
	Changes made to the HqnContour procset.
374219	Remove patching screens for separation detection to prevent a RIP issue when a customer supplied job is output repeatedly (SW Call #124283).
	Changes made to the RIP binaries.
374266	Implement a fix for a issued caused by a specific JPEG image from a customer supplied file (SW Call #124294).
	Changes made to the RIP binaries.
374359	Implement a fix for an issue with a customer supplied file missing an image used within a pattern in an unusual way (SW Call #124308).
	Changes made to the RIP binaries.
374404	Implement a fix so that a customer specific job containing a very large RGB JPEG image in combination with HDLT does not cause a VMError while processing (HHR Support #1778).
	Changes made to the RIP binaries.
374423	Implement a fix for the previously listed "Known Issue" where an Altona test job using a specific customer configuration used significantly more memory that a previous release and caused the RIP to fail if not enough memory is available.
	Changes made to the RIP binaries.
374435	Report errors from SensePageDevice.
	Changes made to the RIP binaries and the HqnImpose2 procset.
374598	Update Japanese localization for v11.0r2.
	Changes made to the localization files.
374712	Add option to allow named color lookup when using a No Color Management color setup.
	Changes made to the RIP binaries and user Interface.
374719	Implement a change to improve performance when using a customer specific position independent HVD setup (HHR Support #1691, SW Call #123755).
	Change made to the RIP binaries.
374742	Implement a change so that a customer supplied test file output with HHR 11 matches the performance of HMR10.1r2 with color management (HHR Support #1691).
	Changes made to the RIP binaries.
374889	Implement dialog timeout facility in PC FrameWork code so that the About dialog closes (SW Call #124421).
	Changes made to the GUI code.

Table. 6 Changes made for Harlequin MultiRIP v11.0r2

Reference	Description
374993	Implement a change so that the RIP does not crash when selecting a Named Color DataBase in the Color Editor which doesn't define /ForceUpperCase (it is then defaulted to true) and if that database includes non-upper cased names (SW Call #124442). Changes made to the RIP GUI code.

Table. 6 Changes made for Harlequin MultiRIP v11.0r2

Below is a list of the changes made between HMR v11.0r0 to HMR v11.0r1. The table is uncategorized, in numerical order:

Reference	Description
367245	Add interfaces to enable the modular screening API implementation to multi-thread (SW Call #122571). Changes made to the RIP binaries.
368049	Add "auto" mode for HVD. For more information see "Auto mode for HVD—368049" on page 16. Changes made to the RIP binaries.
368271	Implement a fix which prevents a blank page from causing a premature Flat output in Imposition (SW Call #122893). Changes made to the RIP binaries.
368968	Extend NamedColor resource handling to support known colors in CMYKOG, CMYKOGV. Changes made to the HqnColorDatabase procset.
370080	Build Brand color editing API. Changes made to the RIP binaries.
370581	Implement a fix to the basic trap rule to correct a regression from HMR10.0rx (SW Call #122826), (SW Call #121973), (SW Call #122756). Changes made to the RIP binaries.
370903	Create spot color editor to adjust NamedColor databases and NamedColorOrder resources. Changes made to the RIP binaries.
371483	Implement a fix so that a spot color overprint preview honors the ink limits in a final-stage device-link (HHR Support #1356), (SW Call #123755). Changes made to the RIP binaries and HqnColorDatabase procset.
371774	Implement a fix for a crash with screenforall /HalftoneColor key (SW Call #123827). Changes made to the RIP binaries.

Table. 7 Changes made for Harlequin MultiRIP v11.0r1

Reference	Description
372289	Prevent iHVD scan time from being significantly impacted by huge /PageRange array (HHR Support #1459). Changes made to the HqnLocal procset.
372770	Fix problems with "Screen mapping" functionality (SW Call #124028). For more information see "Screen selection for spot colors—372770" on page 16. Changes made to the RIP binaries.
372770	Allow Default screen for HT5 spot colors to overcome an issue with the screen mapping functionality (SW Call #124028). Changes made to the RIP binaries.
372933	Implement a check to cope with malformed PDF files with TrueType fonts embedded using FontFile, and not FontFile2. This prevents Error: unmatchedmark; OffendingCommand: TJ(PDF) on a customer supplied file (SW Call #124050). Changes made to the RIP binaries.
373061	Update Japanese localization. HMR 11. Changes made to the localization files.
373131	Provide option to force knockout for black objects. For more information see "OverprintBlack—373131" on page 16. Changes made to the RIP binaries.
373134	Extract the leafname from the calibration group filename so that the group name is reported to the RIP log (SW Call ##124078). Changes made to the RIP binaries.
373210	Make PDF setpagedevice optimization optional by making OptimizeSetPageDevice a pdfexec parameter as well as a PDF parameter. Changes made to the RIP binaries.
373363	Make a change to retain channel numbers for modular screening. This overcomes a customer reported issue in the modular screening interface that occurs when separations are omitted (SW Call 124127). Changes made to the RIP binaries.
373382	Extend coverage of core RIP errors with unique IDs for Monitor Events. For more information see "New monitoruid files and csv—373382" on page 17. Changes made to the RIP binaries.
373385	Implement a fix for the previously listed "Known Issue" where the RIP would not omit separations containing images. Changes made to the RIP binaries.
373393	To overcome an undefined resource issue implement a change to cope with CID Type 0 embedded fonts where the font CMapName does not match the CMapName defined in the embedded CMap file (SW Call #124134). Changes made to the RIP binaries.

Table. 7 Changes made for Harlequin MultiRIP v11.0r1

Reference	Description
373416	Implement a fix for a previously listed "Known Issue" where testing revealed that a test job is output incorrectly when multithreading, parallel pages and OverprintPreview SpotOnly are activated. This issue also affects PDF/X-4 files. Change made to the RIP binaries.
373571	Add a new PDF parameter to ignore the page group. For more information see "New PDF parameter to ignore page group—373571" on page 17. Changes made to the RIP binaries.
373683	Pad eHVD raster elements to GridX, GridY on all sides. Changes made to the RIP binaries.
373711	Parse document metadata which is written in abbreviated XML. Changes made to the RIP binaries and HqnHVDParams procset.
373840	Add the Harlequin Contour Processor. See "The Harlequin Contour Processor (HqnContour procset)—373840" on page 17. Changes made to the build system and HqnContour procset.
373931	Implement a fix so that a customer supplied file with knockout white text prints correctly with an eHVD workflow (SW Call #124235). Changes made to the RIP binaries.
373933	Provide a PGB parameter "OptimizedPDFPositionIndependent" indicating that position independent HVD is active. TRUE for nearly every job when the configuration includes "/OptimizedPDFPositionIndependent true" but FALSE for jobs where the core is forced to turn off position independence. Changes made to the RIP binaries.
374096	Update OKI plugin version in additional plugins installer.
374147	Make changes to improve HVD performance. Change made to the RIP binaries.
374262	Use a version of the LDK runtime which formally supports Windows 10 (v7.41). Changes made to the build system.
374385	Implement a change so that HPS is disabled when modular screening is selected (SW Call #124298). Changes made to the RIP GUI.

Table. 7 Changes made for Harlequin MultiRIP v11.0r1

GLOBAL GRAPHICS®
software
™

Copyright and Trademarks

Harlequin® MultiRIP™—v11.0r4

February 2017

HMR-Release Note-OEM

Document issue: 536

─────────────────────────────────

This library is free for commercial and non-commercial use as long as the following conditions are adhered to. The following conditions apply to all code found in this distribution, be it the RC4, RSA, lhash, DES, etc., code; not just the SSL code. The SSL documentation included with this distribution is covered by the same copyright terms except that the holder is Tim Hudson (tjh@cryptsoft.com).

Copyright remains Eric Young's, and as such any Copyright notices in the code are not to be removed. If this package is used in a product, Eric Young should be given attribution as the author of the parts of the library used. This can be in the form of a textual message at program startup or in documentation (online or textual) provided with the package.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the copyright notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

3. All advertising materials mentioning features or use of this software must display the following acknowledgement: "This product includes cryptographic software written by Eric Young (eay@cryptsoft.com)". The word 'cryptographic' can be left out if the routines from the library being used are not cryptographic related:-).

4. If you include any Windows specific code (or a derivative thereof) from the apps directory (application code) you must include an acknowledgement: "This product includes software written by Tim Hudson (tjh@cryptsoft.com)".

THIS SOFTWARE IS PROVIDED BY ERIC YOUNG ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The licence and distribution terms for any publicly available version or derivative of this code cannot be changed. i.e. this code cannot simply be copied and put under another distribution licence [including the GNU Public Licence.

_____

ICU - IBM library providing Unicode and Globalization support

Copyright © 1995-2003 International Business Machines Corporation and others All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, provided that the above copyright notice(s) and this permission notice appear in all copies of the Software and that both the above copyright notice(s) and this permission notice appear in supporting documentation.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization of the copyright holder.

_____

Expat - XML parser library

Copyright © 1998, 1999, 2000 Thai Open Source Software Center Ltd and Clark Cooper

Copyright © 2001, 2002 Expat maintainers.

_____

pthreads-win32 - a POSIX threads library for Microsoft Windows

This file is Copyrighted

Pthreads-win32 is covered by the GNU Lesser General Public License

The contact addresses for pthreads-win32 is as follows:

Web:http://sources.redhat.com/pthreads-win32

Email: Ross Johnson

Please use: Firstname.Lastname@homemail.com.au

Pthreads-win32 copyrights and exception files

The current list of contributors is contained n the file CONTRIBUTORS included with the source code distribution. The current list of CONTRIBUTORS can also be seen at the following WWW location:

http://sources.redhat.com/pthreads-win32/contributors.html

Contact Email: Ross Johnson

Please use: Firstname.Lastname@homemail.com.au

These files are not covered under one of the Copyrights listed above:

COPYING

COPYING.LIB

tests/rwlock7.c

This file, COPYING, is distributed under the Copyright found at the top of this file. It is important to note that you may distribute verbatim copies of this file but you may not modify this file.

The file COPYING.LIB, which contains a copy of the version 2.1 GNU Lesser General Public License, is itself copyrighted by the Free Software Foundation, Inc. Please note that the Free Software Foundation, Inc. does NOT have a copyright over Pthreads-win32, only the COPYING.LIB that is supplied with pthreads-win32.

The file tests/rwlock7.c is derived from code written by Dave Butenhof for his book 'Programming

With POSIX® Threads'. The original code was obtained by free download from his website http://home.earthlink.net/~anneart/family/Threads/source.html and did not contain a copyright or author notice. It is assumed to be freely distributable.

In all cases one may use and distribute these exception files freely. And because one may freely distribute the LGPL covered files, the entire pthreads-win32 source may be freely used and distributed.

General Copyleft and License info

For general information on Copylefts, see: http://www.gnu.org/copyleft/

For information on GNU Lesser General Public Licenses, see: http://www.gnu.org/copyleft/lesser.html http://www.gnu.org/copyleft/lesser.txt

_____

zlib - general purpose compression library

Copyright © 1995-2013 Jean-loup Gailly and Mark Adler

This software is provided 'as-is', without any express or implied warranty. In no event will the authors be held liable for any damages arising from the use of this software.

Permission is granted to anyone to use this software for any purpose, including commercial applications, and to alter it and redistribute it freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not claim that you wrote the original software. If you use this software in a product, an acknowledgment in the product documentation would be appreciated but is not required.

2. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.

3. This notice may not be removed or altered from any source distribution.

_____

Copyright © 2005-2008, The Android Open Source Project

Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except in compliance with the License.

Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions and limitations under the License.

Apache License

Version 2.0, January 2004

http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct

or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) owner-ship of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifica-tions or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclu-sion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on elec-tronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is con-spicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following con-ditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trade-mark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You dis-tribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if pro-vided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You dis-tribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribu-tion notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Deriva-

tive Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDI-TIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

_____

US Government Use

Harlequin RIP software is a computer software program developed at private expense. If the Harlequin Host Renderer software is acquired under the terms of a proposal or agreement with the United States Government or any contractor therefor, the software is subject to the following restricted rights notice: "This Software is commercial computer software provided with RESTRICTED RIGHTS. Use, duplication, or disclosure by the U.S. Government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013, FAR 52.227-17 Alternate III (g)(3), or subparagraphs (c)(1) and (2) of the Commercial Computer Software -- Restricted Rights at 48 CFR 52.227-19, as applicable, and their successor provisions. Contractor/Manufacturer is Global Graphics Software Incorporated, Waltham, MA 02451."