

# HARLEQUIN® multiRIP™

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## Release Notes



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# Harlequin® MultiRIP™ v11.0r3

## Release notes

Global Graphics Software (GGSL) is pleased to announce the release of the Harlequin® MultiRIP™ v11.0r3 (HMR).

This release note contains the following information:

- [“New features and improvements” on page 4](#)
- [“Notes about this release” on page 5](#)
- [“Plugins and utilities” on page 7](#)
- [“Supported operating systems” on page 8](#)
- [“SOAR support” on page 8](#)
- [“Documentation change details” on page 9](#)
- [“Notes about v11.0r2” on page 9](#)
- [“Notes about v11.0r0 and v11.0r1” on page 12](#)
- [“Change details” on page 16.](#)

## I New features and improvements

The following improvements have been made to HMR v11.0r3:

- Improvements to the Harlequin Color Editor
- Updates to [“Pantone Plus database—373742/374441” on page 6](#)
- HVD performance improvements along with the removal of the incompatibility between the use of HVD and OPI
- Add framework and include double-dot HDS screens in RIP deliveries
- [“Updated CMM API—375337” on page 6](#)
- Updated [“TIFF output plugin v4.4r0” on page 7](#)
- New [“Plugin kit—v20.2r3” on page 8](#)
- Various fixes and maintenance improvements.

## 2 Notes about this release

This section contains notes about v11.0r3.

### 2.1 Procset changes

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

HqnAssert, HqnColorDatabase, HqnHalftoneUtilities, HqnNamedColorAPI and HqnPageSetupConf.

### 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 on with PDF 2.0 features so far are added into Harlequin v11.0r3, 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 that 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 have added a new layered option in 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 licence 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 licences, 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](mailto: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 licences for contractual reasons).

In Harlequin v11.0r3 the following features are 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 additional PDF 2.0 features are planned for delivery in v11.0r4, and will be also secured using the PDF 2.0 option:

- Page level output intents.
- `UseBlackPTComp` gstate key to specify Black point compensation use.
- New rules on inheritance of transparency color spaces.

## 2.3 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.

## 2.4 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.

## 2.5 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*”.

## 2.6 HVD and OPI—375708

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

## 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 3 64-bit Edition”.

Note: v50.0 Revision 3 represents v5.0r3 of the core RIP library and v11.x of the publicly distributed RIP.

## 3 Plugins and utilities

Any plugins distributed with this release are supplied solely for use with the Harlequin MultiRIP v11.0r3.

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 v11.0r3:

Availability	Plugin/Utility	v11.0r3	v11.0r2	v11.0r1	v11.0r0	v10.1r2
Standard	Migrate	8.0r2	8.0r2	8.0r2	8.0r0	7.1r1
Standard	Genlin	3.1r0	3.1r0	3.1r0	3.1r0	3.0r1
Standard	SetGold	5.3r0	5.3r0	5.3r0	5.2r0	5.2r0
Standard	LDK utilities	1.6r1	1.5r0	1.5r0	1.5r0	1.4r0
Standard	Socket	3.2r2	3.2r2	3.2r2	3.2r2	3.2r1
Standard	Spool folder	3.6r2	3.6r2	3.6r2	3.6r2	3.6r1
Standard	PDF Raster	1.4r2	1.4r2	1.4r2	1.4r2	1.4r1
Standard	Testdev (none)	3.2r3	3.2r3	3.2r3	3.2r3	3.2r2
Standard	TIFF	4.4r0	4.3r3	4.3r3	4.3r2	4.3r1
Standard	CRD Generator plugin	50.0r0	50.0r0	50.0r0	50.0r0	40.1r0
Standard	XPS PrintTicket Device	11.0r3	11.0r2	11.0r1	11.0r0	10.1r2
Optional	CIP3	1.6r0	1.6r0	1.6r0	1.6r0	1.5r1
Optional	OKI PCL C9650 laser printer	1.7r1	1.7r1	1.7r1	1.7r1	1.7r1
Optional	OKI C931/C941/C942	2.4r0	2.3r0	2.3r0	2.2r0	2.0r15
Optional	NT Pipe	1.1r2	1.1r2	1.1r2	1.1r2	1.1r1
Optional	Plugin Kit	20.2r3	20.2r2	20.2r2	20.2r1	20.2r1
Optional	vDot4 plugins for Epson Stylus Pro 4900, 7890, 7900, 9890, 9900					

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—v20.2r3

A new plugin kit v20.2r3 is released along 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:

Harlequin MultiRIP v11.0r1	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)

**Table. 1** 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 v11.0r3:

Document	Status	Format
OEM Manual	Updated	PDF/MIF
Extensions Manual	Updated	PDF
API Reference Manual	Updated	PDF
List of Technical Notes	Updated	PDF
Localization Release Notes	Updated	PDF
Harlequin LDK Ordering	Updated	PDF
LDK security FAQ	Updated	PDF

Table 2 Documentation changes

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 v11.0r2

This section contains notes about v11.0r2.

### 7.1 Procset changes

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

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

### 7.2 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.

### 7.3 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*.

### 7.4 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 **HqnHVDPparams** 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**.

## 7.5 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 **HqnHVDPparams** 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 **HqnHVDPparams** 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 **HqnHVDPparams** procset.

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

## 7.6 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> ]%%
```

## 7.7 ImmediateRepro—374972

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

## 7.8 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.

# 8 Notes about v11.0r0 and v11.0r1

This section contains more detailed notes about this release.

## 8.1 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.

### 8.1.1 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.

## 8.2 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.

### 8.3 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.

### 8.4 DroidSansFallback font

The DroidSansFallback font is present in `\SW\CIDFont` but is not used by the SDK. This DroidSansFallback 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.

### 8.5 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 HqnHVDPParams 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.

### 8.6 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.

### 8.7 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 10](#) and [“Move Auto HVD Creator table to \SW\Usr—368049” on page 11](#) for the latest information.

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

### 8.8 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*.

## 8.9 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.

## 8.10 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.

## 8.11 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:

<code>true</code>	The PDF interpreter will not issue a <code>setpagedevice</code> 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.
<code>false</code>	The PDF interpreter will always issue a <code>setpagedevice</code> call between pages. Setting this option will be slower, but also allows the <code>SensePageDevice</code> hooks to be run on every page to modify the page or media handling.

## 8.12 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”.

### 8.13 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 honour 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:

<code>/None</code>	(the default). Behave as now.
<code>/All</code>	Ignore all page groups in the job.
<code>/ProcessColorModel</code>	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`.

### 8.14 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.

### 8.15 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 `\SWNamedColorOrder\PantonePLUS` and `\SWNamedColorOrder\PantoneStandard` files are removed because the brand color editor API is used instead.

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

## 8.16 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.

## 8.17 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.

## 8.18 AllowColorManagement key—372931

The values used in NamedColor databases defined in DeviceCMYK has always been interpreted as matching the CMYK input characterisation 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 DeviceCMYK.

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 PostScript language resource, the same optional key should be added to the resource dictionary.

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

## 9 Change details

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.

**Table 3** Changes made for Harlequin MultiRIP v11.0r3



Reference	Description
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.
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 <i>not</i> 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.

**Table 3** Changes made for Harlequin MultiRIP v11.0r3

Reference	Description
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.
374999	Implement code to handle %!PDF-2.0 header. Changes made to the RIP binaries.
375027	Store passwords as UTF-8. For more information see <a href="#">“Unicode passwords—375027” on page 6</a> . 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 <a href="#">“PDF 2.0 support” on page 5</a> . Changes made to the RIP binaries.

**Table 3** Changes made for Harlequin MultiRIP v11.0r3

Reference	Description
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.
375337	The CMM API has been updated to version SW_CMM_API_VERSION_20160819. For more information see <a href="#">“Updated CMM API—375337” on page 6</a> and the <i>“API Reference manual— section 1.3.8”</i> . 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 <a href="#">“TIFF output plugin v4.4r0” on page 7</a> . Changes made to the TIFF output plugin.
375469	Add the template options <code>&lt;/&gt;</code> and <code>&lt;\&gt;</code> to the TIFF output plugin. For more information see <a href="#">“TIFF output plugin v4.4r0” on page 7</a> . Changes made to the TIFF output plugin.
375470	Change the default Compression value in the TIFF output plugin to Packbits. For more information see <a href="#">“TIFF output plugin v4.4r0” on page 7</a> . 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 <a href="#">“Unicode passwords—375027” on page 6</a> . Changes made in the RIP binaries.
375645	Update Japanese localization for v11.0r3. Changes made to the localization and message files.

**Table 3** 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 <a href="#">“PDF 2.0 support” on page 5</a> . 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 <a href="#">“Harlequin VariData GUI option—368049” on page 10</a> . Also Move Auto HVD Creator table to \SW\Usr. For more information see <a href="#">“Move Auto HVD Creator table to \SW\Usr—368049” on page 11</a> . 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 GGFonEmulation procset.
370340	Added an ExtraStart file to allow the definition of a list of fonts for which hinting should be ignored. For more information see <a href="#">“Font hinting—370340” on page 11</a> . Changes made to the 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 <a href="#">“Color-Logic metallic designs—371663” on page 9</a> . Add HqnWhite procset.
373382	Extend coverage of core RIP errors with unique IDs for Monitor Events. For more information see <a href="#">“New monitoruid files and csv—373382” on page 14</a> . 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 honours 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.

**Table 4** Changes made for Harlequin MultiRIP v11.0r2

Reference	Description
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 DCSCCommentParser procset.
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.

**Table 4** Changes made for Harlequin MultiRIP v11.0r2

Reference	Description
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.
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 4** 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 <a href="#">"Auto mode for HVD—368049" on page 13</a> . 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.

**Table 5** Changes made for Harlequin MultiRIP v11.0r1

Reference	Description
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 honours 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.
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 <a href="#">“Screen selection for spot colors—372770”</a> on page 13. 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 <a href="#">“OverprintBlack—373131”</a> on page 14. 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.

**Table 5** Changes made for Harlequin MultiRIP v11.0r1

Reference	Description
373363	<p>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).</p> <p>Changes made to the RIP binaries.</p>
373382	<p>Extend coverage of core RIP errors with unique IDs for Monitor Events. For more information see <a href="#">“New monitoruid files and csv—373382”</a> on page 14.</p> <p>Changes made to the RIP binaries.</p>
373385	<p>Implement a fix for the previously listed “Known Issue” where the RIP would not omit separations containing images.</p> <p>Changes made to the RIP binaries.</p>
373393	<p>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).</p> <p>Changes made to the RIP binaries.</p>
373416	<p>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.</p> <p>Change made to the RIP binaries.</p>
373571	<p>Add a new PDF parameter to ignore the page group. For more information see <a href="#">“New PDF parameter to ignore page group—373571”</a> on page 15.</p> <p>Changes made to the RIP binaries.</p>
373683	<p>Pad eHVD raster elements to GridX, GridY on all sides.</p> <p>Changes made to the RIP binaries.</p>
373711	<p>Parse document metadata which is written in abbreviated XML.</p> <p>Changes made to the RIP binaries and HqnHVDParams procset.</p>
373840	<p>Add the Harlequin Contour Processor. See <a href="#">“The Harlequin Contour Processor (HqnContour procset)—373840”</a> on page 15.</p> <p>Changes made to the build system and HqnContour procset.</p>
373931	<p>Implement a fix so that a customer supplied file with knockout white text prints correctly with an eHVD workflow (SW Call #124235).</p> <p>Changes made to the RIP binaries.</p>
373933	<p>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.</p> <p>Changes made to the RIP binaries.</p>
374096	<p>Update OKI plugin version in additional plugins installer.</p>

**Table 5** Changes made for Harlequin MultiRIP v11.0r1



Reference	Description
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 5** Changes made for Harlequin MultiRIP v11.0r1



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Harlequin® MultiRIP™—v11.0r3

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