HARLEQUIN® multiRIP™

Release Notes

Version 10.0r0

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GLOBAL GRAPHICS® software

Contents

Harlequin® MultiRIP™ v10.0r0 Release notes

Global Graphics Software (GGSL) is pleased to announce the release of the Harlequin® MultiRIP™ v10.0r0 (HMR).

1 Note about this release

Please note the following benefits of HMR v10.0r0 over Harlequin Server RIP v9.x (HSR).

1.1 Performance

- Multi-threading

  HMR v10.0r0 extends multi-threading in two ways:

  - Transparency compositing can now be multi-threaded, accelerating the most complex RIP phase.
  - The Harlequin Parallel Pages™ (HPP) layered option allows the RIP to interpret one page while the previous page is still being composited and rendered. This maintains multi-threading benefits and allows optimal use of processor cores.

  By default, the RIP is configured to allow the use of a limited number of threads. Additional layered options, such as Harlequin Parallel Pages™ (HPP) and Harlequin VariData™ (HVD) are available for situations where maximum performance is required. The use of HPP and HVD is protected with an LDK key or using a layered option password tied to a specific dongle or permit file.

- 64-bit binary

  Using a 64-bit RIP build aids performance in two ways:

  - The compiled code can perform some steps in fewer cycles because of larger word sizes thereby increasing the RIP speed by around 10%.
  - Much larger address space.
  - A 64-bit build can access all the RAM installed in your computer.

- New plugin calls

  The output plugin API is extended with additional methods for reporting consumption of scan lines in a more efficient way. This is the first exposure of new internal models of timelines and events that have been enabled by the comprehensive multi-threading work in the core RIP.

  Output plugins don't have to be changed to take advantage of these, but plugins for devices with very high data rates can benefit from doing so.

- Code optimization

  Core code is optimized to accelerate many aspects of the RIP, especially with transparency rendering where the removal of transparency pre-scanning is a significant benefit.

Note: 64-bit builds will be the main focus for future releases. That is, future upgrades will be 64-bit only so you should plan to migrate.

1.2 Color

- SetGold / SetGoldPro
- The SetGold and SetGoldPro utilities are upgraded and extended to:
  - Drive the latest i1 Pro 2 colorimeter from X-Rite.
  - Drive supported X-Rite devices on a 64-bit platform.
  - Provide optimal color in situations where paper white is not the highest luminance patch.
  - SetGold is protected using an LDK soft-lock.
- Push calibration procset

  The HqnPushCalibration procset added in HSR 9 has been extended to allow the delivery of measurement data in additional formats. This update provides an alternative which does not require any manual interaction with the Calibration Manager dialog. For more information see *Technical Note Hqn081 "Push Calibration"*.

- PANTONE Plus extensions

  Pantone has added some new colors to the PANTONE Plus swatch. The look-up tables are extended to include these new colors to enable the most accurate rendering of spot colors on CMYK, HiFi or PhotoInk device. For more information see "New colors added to PANTONE Plus" on page 11.

- CMYK blending

  The RIP can be configured to use the output CMYK as the default CMYK blend space for transparency processing, rather than requiring it to be pre-defined separately. For more information see "Late color management and Overprint preview" on page 11.

1.3 Security

A new security model using SafeNet's LDK technology is added alongside the Harlequin License Server (HLS). This allows GGSL to offer a variety of new security models. The following options are available:

- "Soft-locks", where the license is tied to the hardware on which the RIP is running, rather than to a physical dongle.
- "VM-locks" for use on virtual machines.

- Time-limited licenses can be produced which will expire a set time after first use, instead of on a date defined at the time of ordering.
- Licenses to enable multiple RIPs across multiple computers on arbitrary networks can be offered for the first time. **Note**: This feature is regarded as a Beta release while testing is ongoing.
- The HMR v10.0r0 installer can be used to install LDK or HLS with or without a RIP.
- If the HMR v10.0r0 uninstaller is used to uninstall the LDK or HLS it will remove them from the system (active HLS permit files will not be removed).

For more information on the LDK see "Security" on page 10 and the *Sentinel LDK Security* document.

1.4 Variable data support

The "PDF Retained Raster" optimizations for variable data print in HSR9 is replaced with a re-write in the form of "Harlequin VariData™" (HVD). This new version is much more flexible in the element types that can be regarded as variable, and works with any PDF file constructed to convey a VDP job.

HVD is available in two modes:

Internal HVD (iHVD)
: Caching of pre-rendered shared content is performed within the RIP. The result is better performance requiring more RAM than it would without iHVD.

External HVD (eHVD)
: The RIP renders re-used elements and single-use elements separately, and provides those to OEM code, together with metadata to describe how they need to be assembled for output. The OEM code must manage the rasters and re-assemble them.

For more information see "Harlequin VariData™ and Harlequin Parallel Pages™ user considerations" on page 14 and "Harlequin VariData™ (HVD)" on page 14.

1.5 Conformance and compatibility

HMR v10.0r0 includes numerous improvements to allow processing of badly-formed PDF files, or PDF files with badly-formed embedded fonts to continue to completion. In addition, improvements have been made to the rendering of edge-cases in stroking, including areas such as `setstrokeadjust` and mitered joins.

2 Supported operating systems

The Harlequin MultiRIP v10.0r0 is formally supported on the following operating systems:

Harlequin MultiRIP v10.0r0	Windows
32-bit	Windows XP 32-bit
	Windows 7 32-bit
	Windows 8 32-bit

Table. 1 Supported operating systems

64-bit	Windows 7 64-bit
	Windows 8 64-bit
	Windows Server 2008 R2 64-bit
	Windows Server 2012 64-bit

Note: HMR v10.0r0 is not supported on Mac OS X or Linux.

Note: On Windows Server 2012, 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 Server 2008 R2.

3 Upgrade to the Harlequin MultiRIP

You can upgrade to the Harlequin MultiRIP v10.0r0:

- From all Harlequin Server RIP versions 7, 8 or 9.

GGSL is working towards supporting upgrades from v9 or earlier HLS enabled RIPs to HMR v10.0r0 using an LDK soft-lock or VM-lock. Within the next few months this will be achieved by using dongle return. By sometime in 2014 it is intended to avoid dongle return. That is, a method of remote dongle disabling and activation by LDK will be used.

When upgrading note the following:

- A 32-bit build of HMR v10.0r0 can be enabled by a permit/dongle programmed for Harlequin Server RIP versions 7, 8 or 9, with the addition of one or more passwords.
- A 64-bit build of HMR v10.0r0 can be enabled by a permit/dongle programmed for Harlequin Server RIP versions 7, 8 or 9, with the addition of one or more passwords. This combination does *not* also enable a 32-bit build of HMR v10.0r0.
- A 64-bit build of HMR v10.0r0 can be enabled by a permit/dongle programmed for a 32-bit build of HMR v10.0r0 with the addition of a 64-bit password.
- 32-bit and 64-bit HMR v10.0r0 dongles only enable either 32-bit or 64-bit builds of HMR v10.0r0. That is, a 64-bit dongle will not enable a 32-bit build.
- A 32-bit or 64-bit build of HMR v10.0r0 running on Windows can be enabled by a dongle programmed for Harlequin Server RIP versions 9 (or earlier) running on Macintosh, with the addition of an appropriate password.
- Gencust versions of all passwords are available.

The 32-bit build is provided to enable upgrade to HMR v10.0r0:

- It allows existing users to upgrade from the Harlequin Server RIP to HMR v10.0r0 without the additional expense of replacing the Windows installation.
- It allows plugins written for HSR 9.x (and earlier) to continue to be used unchanged in 32-bit builds of HMR v10.0r0. Plugins will, at least, need to be recompiled for use with 64-bit HMR v10.0r0 builds.
- It allows any plugins that talk to hardware through 32-bit drivers to continue to be used, even if those drivers cannot be upgraded to 64-bit for any reason.

Note: Running a 32-bit RIP in 32-bit mode on a 64-bit machine is not a supported option.

4 HMR Migrate utility

The Migrate utility enables the following migration paths:

- To a 32-bit build of HMR v10.0r0 from all revisions of HSR from v8.1 onwards.
- To a 64-bit build of HMR v10.0r0 from all revisions of HSR from v9.x onwards.

When using the Migrate utility the following items are not migrated:

- 32-bit plugins are not migrated to 64-bit RIPs (a warning dialog is displayed).
- Fonts are not migrated. That is, either the basic fonts or any additional installed fonts.
- Configure RIP settings including:
  - Workspace and pagebuffer paths if customized, return to default.
  - Memory settings return to default.
  - Page buffering returns to Multiple Parallel.

5 Procsets changed

Procsets changed between HSR v9.0r2 and HMR v10.0r0 are:

DCSCommentParser, GGFontEmulation, HqnCalibrate, HqnColorBar, HqnColorDatabase, HqnConfigureRIP, HqnControl, HqnErrorHandler, HqnExternalFile, HqnImage, HqnImpose2, HqnInputTypes, HqnLayout, HqnLocal, HqnMedia, HqnMissingFonts, HqnNamedColor, HqnOPI, HqnOPICommon, HqnPageCounter, HqnPageSetupConf, HqnParseComments, HqnPDFContext-Manager, HqnPDFPages, HqnPushCalibration, HqnSettings, HqnSpots, HqnTarget, HqnUNC and Trapping.

The following procsets have been removed:

HqnEpson, HqnHPgen, HqnHPGL, HqnJDF, HqnLWScanDict, HqnPCL, HqnPDFChecker, HqnProgress, HqnPSHooks and HqnTIFFScanDict.

Note: You may need to remove calls to HqnPDFChecker from your own imposition code (or put it inside a switch based on procset presence). For more information see "HqnPDFChecker procset" on page 11.

6 Watermark RIP

A 32-bit watermarked RIP is available but only as a single-threaded version.

The drop dead date for a watermarked RIP is September 30, 2014.

Note: Watermark RIPs will soon be discontinued in favor of timed software licenses (using the LDK).

7 SOAR support

HMR v10.0r0 supports the SOAR host, job-logger and ROAM server.

8 Plugins and utilities

Any plugins distributed with this release are supplied solely for use with the Harlequin MultiRIP v10.0r0.

Note: Existing plugins created for the Harlequin Server RIP v9.x will work with 32-bit versions of the Harlequin MultiRIP v10.0r0.

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 v10.0r0:

Availability	Plugin/Utility	
Standard	Genlin	3.0r0
Standard	HLM	5.0r0
Standard	HLS	5.0r0
Standard	PDF Raster	1.4r0
Standard	TIFF	4.2r0
Standard	Testdev (none)	3.2r0
Standard	Sentinel SuperPro	7.5.7
Standard	Socket	3.2r0
Standard	Spool folder	3.6r0
Standard	XPS PrintTicket Device	10.0r0
Optional	CIP3	1.5r0
Optional	NT Pipe	1.1r0
Optional	TIFF/IT (output)	2.2r0
Optional	Oki c9650 laser printer	1.6r1
Optional	vDot4 plugins for Epson Stylus Pro 4900, 7880, 7890, 7900, 9880, 9890, 9900	

Table. 2 Standard and optional plugins

The following plugins are not supported in HMR v10.0r0:

- Proofing plugins developed by GGSL for older Epson, HP or Canon printers
- AppleTalk input plugin
- TIFF/IT input plugin
- The JDF Enabler.

9 Security

A **SW\secprefs** file is created during the installation, and it informs the RIP which security option to use when both LDK and HLS are installed on a system. This could happen if the machine is being used with other GGSL products. In this situation the **SW\secprefs** file can be edited so that either LDK or HLS is used.

OEMs who write their own installers should create a two-line text file called **secprefs** in the **SW** directory to indicate which of HLS or LDK security the RIP should use.

To use LDK security the contents should be:

```
method
ldk
```

To use HLS security the contents should be:

```
method
hls
```

10 License Server / License Manager

The Harlequin License Server (HLS) and License Manager are updated to v5.0r0. The Sentinel driver v7.5.7 is required.

Changes have been made to enable remote RIP execution, and to fix a related issue which caused the RIP to fail.

Because of the new HLS version, demo dongles require a new demo permit. Note that once HLS v5.0r0 has been installed, older RIP versions will also require the demo permit file to be supplied in order to run on a demo dongle.

11 Naming and version numbering

The installer announces itself as "Harlequin MultiRIP". In the logfile, the RIP announces itself as "RIP Version 40.0 Revision 0 XX-bit Edition".

Note: XX is either 32 or 64, and v4.0r0 Revision 0 represents v4.0r0 of the core RIP library.

12 Plugin function interface

A new PFI call for plugins is available to find the ROM Data Resource (RDR) interface. This interface is the method by which the plugin, and other skin modules access future APIs. The call sequence for plugins is:

- Use the PFI call to find the RDR API.
- Use the RDR API to find the Events API, thread API, and so on.

Currently, APIs that can be discovered through RDR are: RDR itself, Events, PThreads, and Timer. It is possible to build a multi-threaded plugin using the PThreads API subset exposed through RDR.

For more information see the *Plugin Kit guide for OEMs*.

13 Changes to note

You should note the following changes made to HMR v10.0r0.

13.1 HqnPDFChecker procset

`BackdropRender` and `backdropstatus` have been removed and the `HqnPDFChecker` procset is removed.

13.2 Late color management and Overprint preview

A new `OverprintPreview` `interceptcolorspace` key has been added that switches the profile used for the virtual device to either the output profile (`OverprintPreview` `false`) or the device intercept (`OverprintPreview` `true`).

The GUI label Use late color management is changed to Overprint preview. For more information see the *Localization Kit Release Notes*.

13.3 New colors added to PANTONE Plus

The are 336 new colors added to the PantonePLUSCoated and PantonePLUSUncoated named color databases. These new colors are from the March 27th 2012 update to PANTONE Plus Series Solid Color publications.

13.4 AdobeRenderingIntent PDF parameter

The Harlequin MultiRIP emulates Acrobat's out of specification behavior for rendering intents by default. That is, Acrobat always uses the relative colorimetric intent when converting colors between transparency groups, and when converting between the page group and the output device.

A new PDF parameter is added, `AdobeRenderingIntent`, which can switch between Acrobat and the PDF specification behavior. The default of `AdobeRenderingIntent` is `true` to emulate Acrobat.

When `AdobeRenderingIntent` is `false`, the RIP now follows the *PDF Reference* manual in that color conversions in compositing use the rendering intent from the containing group.The conversion of color from ICCBased page groups to the output will now use the "main rendering intent" in ColorPro. This behavior can be emulated in Acrobat using the "Convert Colors" tool by selecting the same output profile and rendering intent. This is a significant change from previous behavior.

The conversion of color from device dependent page groups differs from ICCBased page groups in that the rendering intent of objects painted directly on the page will also be used in conversions from the page group to the output.

13.5 OverprintICCBased user parameter

A new `OverprintICCBased` user parameter is provided (default: `true`) which allows the implicit overprinting of CMYK ICCBased color spaces if the ICC profile matches the first output profile found in `setreproduction`. This will happen:

- if `currentreproduction` has no profiles, and the `OverrideCMYK` `setinterceptcolorspace` attribute is `true`. In the HMR RIP, this means a No Color Management setup with the Override color management in job set.
- if `currentreproduction` has profiles, and the `OverrideCMYK` `setinterceptcolorspace` attribute is `true`, and the profile chosen from `currentreproduction` matches the `DeviceCMYK` profile from `setinterceptcolorspace`. In the HMR RIP, this means a ColorPro setup with the same profile in both the input and output profile slots.
- if the job is being processed as PDF/X-3+, when a CMYK ICCBased color space matches the `OutputIntents` profile.

13.6 pdfexecid

With HMR v10.0r0 it is recommended that `pdfexecid` is not used.

13.7 ForceStrokeAdjust system parameter

The `ForceStrokeAdjust` system parameter is extended to accept the following names:

`/Default`	Honor the value from the job, that is, the value set by `setstrokeadjust`.
`/ForceTrue`	Do `strokeadjust`.
`/ForceFalse`	Do not `strokeadjust`.

For more information see the *Extensions* manual.

13.8 Font blacklist

The Harlequin MultiRIP v10.0r0 applies various measures to mitigate the abuse of font UIDs. One such measure is a configurable blacklist of UIDs that are known to be mis-used. Font caching behavior is modified for each instance of a font that uses a blacklisted UID, to prevent that re-use causing confusion when determining which cached glyphs belong to which font. The blacklist is defined in the **FontUIDBlackList** file in the **SW\Config** folder. For more information see the *Extensions* manual.

13.9 Update Fogra, IFRA and CGATS Press Profiles

The following profiles have been added to: **SW\Config\Press\Profiles\CMYK\Press**:

- Fogra 39L
- Fogra 43L
- IFRA 26L
- IFRA 30L
- SNAP (CGATS TR002)
- SWOP (CGATS TR003)
- SWOP (CGATS TR005)
- GRACol (CGATS TR006)

13.10 Simple Imposition annotation files

When using a new annotation file with Simple Imposition the RIP must be re-started if the annotation file name needs to be escaped, such as the name “PDF/X Overprint tests - large”, otherwise the following message is reported:

```
%%[ Error: HqnLayout: Selected file not found: "Usr/HqnLayout/Annots/PDF/X Overprint
tests - large" ]%%
%%[ Error: undefinedfilename; OffendingCommand: HqnLayout; File: ]%%
```

The vast majority of annotations do not need to be escaped, and can be used immediately after installation, without having to restart the RIP. Note that in all cases a Simple Imposition setup can be created using the newly-installed annotation without a RIP restart. It is only when using that setup that the error occurs for names requiring escaping. The annotation is installed by ripping it with a page setup which uses the “Install Annotation” page feature.

13.11 PageRange reverse order option

`setpdfparams /PageRange` can handle reverse page ranges such as `[5 2]` which would print pages `5`, `4`, `3` and `2` in that order. Page range arrays are interpreted from left to right. So, for example:

```
/PageRange [ [ 3 1 ] 4 3 [5 7] ]
```

Would print pages 3, 2, 1, 4, 3, 5, 6 and 7 (in that order).

Note: `/PageRange` for `setdeviceparams` does not accept reverse page ranges. This feature only works for `setpdfparams /PageRange`.

Negative values can be used. Also, page ranges can exceed the number of pages in the actual job. If, for example, you wanted to print all pages in a job in reverse order, you could use:

```
/PageRange [ [ 9999 -1 ] ]
```

13.12 TextStrokeAdjust PDF parameter

The `/TextStrokeAdjust` PDF parameter is set using `setpdfparams` or by including it in the `pdfexec` dictionary. It is used to adjust the line width of PDF text explicitly stroked using `RenderMode 3`. It does not affect faux-bold text.

It takes a numerical value which has two different effects on the line width applied to explicitly stroked PDF text, depending on the sign:

`+ve`	The value is a scale applied to the line width by multiplication
`0`	No effect (the default)
`-ve`	The value is a reduction applied to the line width by addition

For example, the following code reduces the line width of PDF RenderMode 3 text by 0.5pt:

```
<</TextStrokeAdjust -0.5>>setpdfparams
```

Whereas the following reduces the line width by one half:

```
<</TextStrokeAdjust 0.5>>setpdfparams
```

Note: It is possible to specify values `>= 1.0`. A value of `1.0` will have no effect, and larger values will make the stroke line width thicker.

13.13 Default CID Font

While CID-Bullet remains as the default CID font in HMR v10.0r0, the DroidSansFallback font is provided as part of the **SW** folder for evaluation.

This alternate default CID font can be used by editing **SW\Config\FontSubstitution** for the default CID font to:

```
$error /SubstituteCIDFont { pop /DroidSansFallback } bind put
```

While DroidSansFallback provides potentially usable output for cases where a CID font is not available and the encoding to be used is supplied, there are instances where that encoding information is not defined. In such cases using DroidSansFallback is quite likely to lead to the wrong glyph being used.

13.14 Harlequin VariData™ and Harlequin Parallel Pages™ user considerations

Using a value greater than one for Harlequin Parallel Pages (HPP) has been shown to increase RIP performance substantially, but it also increases the amount of RAM being used by the RIP. This does not usually cause any problems, but can sometimes lead to VM errors when used with very large jobs, such as those with many thousands of pages.

Performance when using HVD with HPP varies from job to job, and there is sometimes a small benefit. However, the main benefit of using HPP is with non-HVD jobs.

13.15 Unloader

When using the unloader note that changes have been made to the unload folders and their contents. Therefore, any scripts should be updated to account for these changes.

14 Miscellaneous notes about this release

This section contains some more detailed information about this release:

14.1 Color profiles

Default color profiles are installed in the **SW\iccprofiles** folder. These profiles should not be deleted. If they are removed the RIP will crash on start-up.

14.2 Harlequin VariData™ (HVD)

- When Recombine or Trapping is used HVD is disabled and a warning message is displayed:

  ```
  %%[ Warning: Recombine enabled - disabling Harlequin VariData ]%%
  ```

- HVD is not compatible with the use of any in-RIP imposition code, such as Simple Imposition, that places multiple pages on a sheet, repositions the pages or adds marginalia.
- Some jobs, including some variable-data jobs, do not gain enough performance increase from this optimization to be worthwhile. Typically, jobs which fall into this category are those which have short interpretation times and long rendering times—which usually means the output format is large, for example CMYK composite at a high resolution.
- No element of RIP configuration (such as `pagedevice`), which has any effect on the RIP's output may be modified during an invocation of `pdfexec` or `pdfexecid`.
- HVD internal mode uses a very large amount of memory, which gets larger as the bit-depth, page size and number of colorants rises, as well as the number of rasters retained. Therefore, using PCs of a lower specification will cause VM errors. This cannot be reproduced on all PCs.
- By not using subset fonts or by using the same subset fonts on every page you may get faster output with HVD enabled.
- For eHVD only the RIP can issue a page define event including one or more elements that have empty bounding boxes, but will not then deliver the raster for those elements. Therefore, you should check that your plugin code can cope with raster elements which have empty bounding boxes. Specifically, when the plugin sees a page define event with a single raster element on a page which has an empty bounding box, it should not wait for that element to arrive before outputting the page, even if that means the page is blank. In particular, ensure that a blank page is output for pages with an element count of zero since that is how blank pages will be represented in future RIPs.

Global Graphics will be reviewing this situation for a later revision.

- Internal GGSL testing has encountered an issue when using HVD external mode and a customer plugin. A test file processed with a CMYK page setup is deliberately interrupted while outputting. This job is correctly interrupted. However, when running the next job the RIP stalls while waiting for the last page and a "Job not completed" message is displayed. To continue, the RIP must be interrupted (abort job or kill job), again displaying "job not completed". Re-running the same job results in correct completion.

  To overcome this situation you must ensure that when the plugin is finished the cache implementation must send a `SWEVT_RR_PAGE_COMPLETE` event to signal that the RIP is free to tidy up after the page, including sending a disconnect event if `SWEVT_RR_PAGE_COMPLETE` events for all of the pages have been received. That is, the plugin must send "page_complete" events for every page, otherwise the RIP will wait. For more information see the *API Reference* manual.

14.3 GGSL bug tracking system

The bug tracking system at GGSL has changed and all issues created in the old system are migrated to the new system. All new issues are created in the new system with a reference number identified as 3XXXXX.

15 Known issues

- One of the GATF Version 5 test pages fails with undefined get Key error. This is caused by an inappropriate assumption in the GATF code.
- In the interest of reducing VM errors and more accurate output, Trapping on some jobs may run a little slower than previous releases.
- If you run PDF files using multiple pdfexecs on the same file, there is a possibility of a syntax error for a small number of files. It can also happen if `getPDFObject` is called prior to the `pdfexec`. An example is:

  ```
  /FileToRun (%E%/BN_WVUS_InsightAgFood_Newsletter US_NOS 6.pdf) (r) file def
  FileToRun << /PageRange [ [1 10] ] >> pdfexec
  FileToRun << /PageRange [ [11 20] ] >> pdfexec
  FileToRun << /PageRange [ [21 30] ] >> pdfexec
  FileToRun closefile
  ```

  What happens is that the previous `pdfexec` or `getPDFObject` moves the file position and this can affect whether the RIP recognizes the file as a PDF. The workaround is to reset the file position back to the start. For example:

  ```
  /FileToRun (%E%/BN_WVUS_InsightAgFood_Newsletter US_NOS 6.pdf) (r) file def
  FileToRun << /PageRange [ [1 10] ] >> pdfexec
  FileToRun dup 0 setfileposition << /PageRange [ [11 20] ] >> pdfexec
  FileToRun dup 0 setfileposition << /PageRange [ [21 30] ] >> pdfexec
  FileToRun closefile
  ```

  Note: `0 setfileposition` is not required on the first `pdfexec`, it is only required for multiple calls to `pdfexec` or `getPDFObject` on the same file.

16 Documentation change details

This section contains details of the various documents which have been created or updated for HMR v10.0r0:

Document	Status	Format
API Reference manual	New	PDF
ColorPro	Updated	PDF/MIF
Extensions manual	Updated	PDF
Harlequin License Server	Updated	PDF
Installation Guide (Windows)	Updated	PDF
Localization Kit Release Notes	New	PDF
Migrate User Guide (Windows)	Updated	PDF/MIF
OEM manual	Updated	PDF/MIF
Plugin Kit Manual	Updated	PDF
Sentinel LDK	New	PDF
Technote Cross Reference*	Updated	PDF/MIF
TrapPro	Updated	PDF/MIF

Table. 3 Documentation changes

*For detailed information on the technical notes available you should consult the *Technote Cross Reference* document.

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

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Harlequin® MultiRIP™—v10.0r0

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