



HARLEQUIN[®] multiRIP[™]

v13 Release Notes



GLOBAL GRAPHICS[®]
software

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Global Graphics Software Limited (GGSL) is pleased to announce the release of Harlequin® MultiRIP™ (HMR) v13.

This Release Note contains the following information:

- Alerts and guidance on page 5.
- New features and improvements on page 8.
- Notes about this release on page 9.
- Documentation change details on page 13.
- Harlequin MultiRIP v13 change details on page 13.

1 Alerts and guidance

1.1 *Compilers*

Plugins for Harlequin MultiRIP v13 should be built with MSVC 2019, v16.4 or later (HQN-380918).

1.2 *BackupConfigurations*

The `BackupConfigurations.ps` utility has been removed (HQN-381312).

1.3 *XPS support removed*

Support for Microsoft's XML Paper Specification (XPS) has been removed from Harlequin RIPs (HQN-378633).

1.4 *PageRange parameters in setpdfparams and setpagedevice.*

The default value and meaning of `PageRange` in PDF parameters and in the page device have been aligned. In both cases the default is now null, meaning “print all pages”, and `[]` now means “print nothing”. This is a change for `setpdfparams`; using `[]` means “print all pages” up to Harlequin v12 (HQN-380681).

1.5 *Improved HPS screen reporting*

When using Harlequin Precision Screening (HPS) for AM screens the screen angles, frequencies and deviation are now reported more accurately and the text used has been made more consistent (HQN-381171).

1.6 *Obsolete Windows versions*

Harlequin will now refuse to run on Windows versions earlier than Windows 7 or Windows Server 2008 R2 (HQN-381386).

1.7 *Page device parameter change*

The interaction between page device parameters when all three of `ImagingBBox`, `Orientation` and `Scaling` are used together has been corrected, which changes output in some cases (HQN-381544).

1.8 *LDK support files*

LDKUtils and LDKTools 2.0 are shipped with Harlequin v13 and must be used from Q3 2020 onwards. They will also need to be used when activating older versions of Harlequin (HQN-381585).

1.9 *Harlequin VariData*

The eHVD event API has been amended in order to support tiling. For more information see the *Harlequin SDK Developer's Guide* (HQN-381813).

Note: eHVD will not work with Harlequin 13 if your event handlers are not updated.

1.10 *Default scaling of rendering from image file formats such as TIFF and JPEG changed*

See Section 4.5 "Extend options for configuring processing of image file formats such as TIFF".

2 Windows build 2004

Most users of Microsoft Windows 10 use what they call the semi-annual channel, on which they make new feature releases available at roughly *six-month* intervals. Each release is supported for 18 months. The last few have been 1809, 1903, 1909 and, most recently 2004. The numbers are nominally two digits for the year and two for the month of issue, but they are usually actually delivered a little later. So 2004 is nominally April 2020 and was first made available in May 2020. But most people's computers have not yet been updated.

We have been informed by Thales/Gemalto/SafeNet of some issues with the current LDK runtime code in combination with Windows 10, version 2004 and Windows Server, version 2004.

Note: GGS recommends that you delay updating your computers to version 2004 until this issue is resolved, and that you recommend to your customers that they do the same if you do not manage the machines on which the RIPs are run yourselves.

The following information in Section 2.1 “Document purpose” and Section 2.2 “Prerequisites” is from the Gemalto bulletin:

2.1 Document purpose

This technical note describes issues that may occur on a Windows 10 Version 2004 when Sentinel LDK Run-time Environment version 7.100 or earlier is already installed or will be installed.

Note: Installed `SL-AdminMode` keys and `SL-UserMode` keys work correctly after the issues described in this technical note are resolved.

2.2 Prerequisites

This technical note is relevant to users of Sentinel LDK who meet the following criteria: The protected application runs under Windows 10 2004 and system RAM is larger than 2G.

Issue #1

When Sentinel LDK Run-time Environment version 7.100 or earlier is installed: Upgrading the operating system to Windows 10 version 2004 may fail (that is, the installation of Windows may fail, causing the installation to roll back) ...

Issue #2

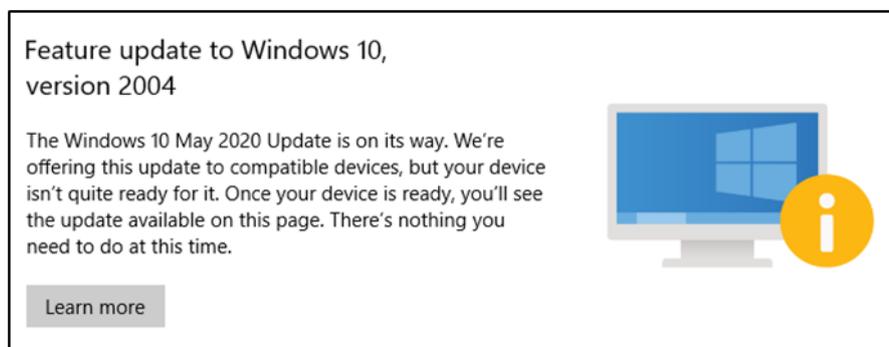
When Sentinel Run-time Environment is not installed: After upgrading Windows 10 to version 2004, installing Sentinel LDK Run-time version 7.100 or earlier may cause a stop error ...

2.3 Identifying your current Windows 10 version and potential upgrades

The easiest way to determine which version of Windows 10 you are currently running is to tap the Windows key and then type `winver` and hit return. You should see a screen rather like this, which shows version 1903:



If you're not already running version 2004 and you ask Windows to check for updates you may see a message rather like this. We understand that Microsoft are currently blocking updates to 2004 if LDK runtime version 7.100 or earlier is installed.



2.4 *Global Graphics mitigation and recommendations*

The last couple of revisions of Harlequin have shipped with LDK runtime 7.100, and the Gemalto bulletin refers to that version “or earlier”, so the bulletin applies to all LDK-secured Harlequin RIPs on Windows.

We have already placed LDK runtime 7.103 on our FTP site for your testing and use. You may make it available immediately to any affected customers if you choose to do so.

Version 7.103 is included with Harlequin v13.

We recommend that you and your customers delay updates to Windows 10 version 2004 until you have a high level of confidence that 7.103 will be in place.

3 New features and improvements

For details regarding new features and improvements made to HMR v13, please see:

- New options to manage PDF Processing Steps on page 9.
- Extend options for colorants on the HMR Separation Manager - HQN-381711 on page 10.
- Add a “Check for Updates” menu option to HMR - HQN-381887 on page 10.
- Extend options for configuring processing of image file formats such as TIFF on page 10.
- Support direct printing of PNG image files on page 10.
- Extensions to in-RIP barcode generation on page 10.

4 Notes about this release

This section contains notes about the changes made to HMR v13:

4.1 Procset changes

The following procsets have been changed between HMR v12.1r2 and HMR v13:

HqnAssert, HqnColorDatabase, HqnCompare, HqnContour, HqnControl, HqnCSV, HqnErrorHandler, HqnImage, HqnImpose2, HqnInputTypes, HqnLayout, HqnLocal, HqnOPI, HqnPDFPages, HqnSpots, Trapping

The following procsets have been removed from HMR v13:

HqnCassetteMunger, HqnColorBar, HqnColorLinearization, HqnConfigureRIP, HqnFlatOut, HqnFontSubstitution, HqnLogo, HqnMedia, HqnPageSetupConf, HqnPluginConf, HqnPluginIO, HqnScanResource, HqnSettings, HqnTarget, HqnThroughputControl, HqnZIP

4.2 New options to manage output colorants

The options available for handling each colorant on the HMR Separation Manager have been extended, to include:

Render - Render this separation; the equivalent of the previous “Yes”.

Not Blank - Render this separation if it has any marks on it, as in Harlequin v12 and earlier.

Knockouts only - Do not render this separation, but do take account of any graphical objects in it knocking out of other separations. This can be useful for spot colors that should not be either rendered or emulated.

Ignore - Do not render this separation and do not take account of any graphical objects in it knocking out of other separations. This can be useful for technical separations, for instance.

Emulate - Convert the named spot color to process, allowing some spots to be specifically emulated, while applying some other processing to “other colors in job”.

(HQN-381711).

4.3 New options to manage PDF Processing Steps

New options have been added to the PDF Options dialog in HMR to control Processing Steps (ISO 19593-1). This allows a Page Setup to be created which, for instance, turns off all structural processing steps, but leaves Legend, whites and varnishes to be

rendered. As PDF files making use of PDF Processing Steps become more common it will mean that job files will not need individual evaluation to determine what names have been used for technical spot colors (HQN-381712).

4.4 *Add a "Check for Updates" menu option to Harlequin MultiRIP*

A "check for updates" option may be added to the HMR user interface, which will open a local browser to open a pre-defined URL on the web. Please contact Harlequin-Support if you wish to take advantage of this capability (HQN-381887).

4.5 *Extend options for configuring processing of image file formats such as TIFF*

Before Harlequin v13, when submitting a TIFF, JPEG, BMP or JPEG2000 image file to the RIP, the default behavior was to change the resolution for rendering to match the resolution of the submitted image file. The default for Harlequin v13 has been changed so that the output resolution is not changed by default. To replicate the old behavior, you can use the new `SetRenderResolution` option. Much more rigorous checking of options and operands has also been added, so incorrect control files that would appear to run to completion in v12 may not do so in v13.

A number of new options related to scaling of the raster generated when processing image files have also been added, *such as* allowing images to be scaled to fit in a pre-defined area, to such that each source image pixel covers an exact number of output device pixels. For more information see the `HqnImage` section in the *Harlequin Extensions Manual* (HQN-378939).

Note: These options are not exposed in the HMR user interface, but may be accessed using page features or output device plugin parameters.

4.6 *Support direct printing of PNG image files - HQN-380317*

Harlequin v13 now accepts PNG files directly, alongside *files such as* PDF, PS, EPS, DCS, TIFF, JPEG, and BMP.

4.7 *Extensions to in-RIP barcode generation*

The in-RIP barcode generation has been extended to enable adding text to 1D barcodes and to support bar width reduction and expansion. For more information see Section B4 in the *Harlequin Extensions Manual* (HQN-378070, HQN-378071).

The in-RIP barcode generator is a layered option in Harlequin RIPs.

5 Updates to supported platforms and compilers

5.1 *Harlequin MultiRIP v13*

Harlequin MultiRIP 13 requires the 64-bit version of Windows.

- Windows 8.1 (requires SP1, excludes Windows RT)
- Windows Server 2012 R2 (Standard Edition only, excludes Server Core configuration)
- Windows 10 workstation (excludes Windows Mobile and Mobile Enterprise, embedded and IoT Core).
- Windows Server 2016 (Standard Edition only, excludes Server Core, Nano-server configurations)
- Windows Server 2019 (excludes Server Core, Nano-server, Windows Server 1809 configurations); from HMR 12.1.
- Plugins should be compiled with MSVC 2019, v16.4 or later (from HMR v13).

5.2 *Installers*

Installers provided by Global Graphics Software are now built using InstallAnywhere 2020 (HQN-381462).

5.3 *LDK Run-time*

Harlequin v13 is shipped with LDK Run-time v7.103 on Windows, while Linux and macOS are shipped with v7.100. See also Section 2, “Windows Build 2004”.

6 Plugins and utilities

Any plugins distributed with this release are supplied solely for use with the Harlequin MultiRIP v13.

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 v13:

Availability	Plugin/Utility	v13	v12.1r2
Standard	Migrate	9.1r0	9.0r2
Standard	Genlin	3.1r2	3.1r1
Standard	SetGold	5.3r0	5.3r0
Standard	LDK utilities	2.0r0	1.8r1
Standard	Spro2ldk	2.0	2.0
Standard	LDK Run-time	7.103 (Windows) 7.100 (Mac, Linux)	7.100
Standard	Socket	3.2r4	3.2r3
Standard	Spool folder	3.7r0	3.6r3
Standard	PDF Raster	1.4r4	1.4r3
Standard	Testdev (none)	3.2r5	3.2r4
Standard	TIFF	4.5r1	4.5r0
Standard	CRD Generator plugin	70.0r0	60.1r2
Standard	XPS PrintTicket Device	N/A	12.1r2
Optional	CIP3	1.6r2	1.6r2
Optional	OKI PCL C9650 laser printer	N/A	1.7r2
Optional	OKI C931/C941/C942	2.4r3	2.4r3
Optional	NT Pipe	1.1r3	1.1r3
Optional	Plugin Kit	20.3r2	20.3

7 Watermark RIPs

The drop-dead date for HMR v13 watermark RIPs has been set to September 30, 2021.

8 Documentation change details

This section contains details of the various documents that have been created or updated for Harlequin MultiRIP v13:

Document	Status	Format
<i>Release Notes</i> (this document)	FINAL	PDF
<i>Extensions Manual</i>	WIP	PDF
<i>API Reference Manual</i>	WIP	PDF
<i>OEM Manual</i>	WIP	PDF
<i>ColorPro User's Guide</i>	WIP	PDF

Note: HMR documentation is available on the Support FTP site at:

<http://support.globalgraphics.com/login.html>. Go to /HMR_Common/HMR_Doc.

Note: All HMR technical notes are located at: <http://support.globalgraphics.com/login.html>.

Go to /HMR_Common/HMR_Doc/Technical Notes.

9 Harlequin MultiRIP v13 change details

Reference	Description
HQN-311831	Ensure accuracy of reals passed between C and PostScript code in the Harlequin core
HQN-367399	Correct very rare cases causing the RIP to hang
HQN-370017	(Support #123441) Pass spot color info to modular screening code
HQN-372552	Ensure bump-up curves work for color-managed images with > 4096 input colors
HQN-375593	(Support #124588, #125866) Add support for Extra Grays with Modular screens
HQN-376933	(Support #123755, #2204) Disable color management of All separation in implicit SpotsOnly transparency groups
HQN-377171	Use multiple icon sizes for generic Harlequin MultiRIP builds
HQN-378070	Add the option to include text with 1D barcodes

Reference	Description
HQN-378071	Add compensation for edge growth and erosion to in-RIP barcode generation
HQN-378405	Remove the (undocumented) PostScript 'system' operator
HQN-378633	Remove support for XPS
HQN-378788	(Support #125426) Don't identify colors as register marks unless they include all colorants in the process color model
HQN-378939	Extend options for configuring processing of image file formats such as TIFF
HQN-379354	Warn if HVD is requested but no licence is available.
HQN-379509	(Support #2834) Ignore color operators in uncolored patterns
HQN-379582	Update library used for JPEG2000 images
HQN-379890	Issue a warning when a parameter is not recognised by the rip in setpdfparams
HQN-380036	(Support #2996) Enable configurations using both NamedColor resources and aliases in the ColorantFamily
HQN-380067	Correct very rare case of low memory handling causing the RIP to hang
HQN-380274	(Support #125736) Expose the OverprintICCBased user param in the HMR Color Manager
HQN-380295	(Support #3028) Correct processing of soft masks containing spot colors that will be processed as named colors
HQN-380317	Support direct printing of PNG image files
HQN-380339	(Support #3057) Exclude overlapping hints in counter hint masks for Type1/Type2 charstrings
HQN-380641	Accept indirect objects for BBox in PDF annotations
HQN-380681	Align PageRange default and behavior between setpdfparams and setpagedevice
HQN-380699	Accept real values for PDF page object Rotate entry
HQN-380918	Build Harlequin 13 with MSVC 2019
HQN-380923	Extend PANTONE NamedColor tables for 294 new colors
HQN-381044	Namecache asserts during GC

Reference	Description
HQN-381151	Accelerate PDF files using many grey levels in simple graphics
HQN-381154	Update LDK application libraries to 7.10
HQN-381170	(Support #3277, #126049) Improve rendering of TrueType fonts that incorrectly contain glyphs with bounding boxes larger than the font bounding box
HQN-381171	Report in-RIP screening angles and frequencies more accurately
HQN-381184	Optimize vector graphic edge tracking to increase speed
HQN-381210	Update HqnLocal for PDF 2.0 text strings in UTF-8
HQN-381213	(Support #125931) Fix crash caused by PDF stitching function with huge number of sub-functions
HQN-381215	(Support #125922) Allow OverprintBlack to be used together with OverprintICCBased
HQN-381226	(Support #125928) Act on MinPageSize in InputAttributes correctly
HQN-381234	Optimize PDF page counting when using HVD and page ranges
HQN-381246	(Support #3281) Add a ControlCircle mark type to HqnImpose2
HQN-381286	Prevent the EPS PageFeature from silently omitting blank pages
HQN-381304	Extend optimizations using CMYKPassThrough hint to transparency compositing
HQN-381305	Add IndependentSpots hint to optimize overprinted whites and varnishes
HQN-381312	(Support #125948) Remove the BackupConfigurations.ps utility
HQN-381321	(Support #125943) Correct issues with PDF page group color spaces after a partial paint in low-memory situations
HQN-381326	Add device-space equivalent of ImagingBBox (TileDeviceBBox)
HQN-381375	(Support #3331) Extend error reporting in HqnColorDatabase
HQN-381386	Build Harlequin so that it will not attempt to run on Windows versions earlier than Windows 7 or Server 2008 R2
HQN-381462	Update installers to use InstallAnywhere 2020

Reference	Description
HQN-381465	Trigger an error if HVD OptimizedPDFCacheID is incompatible with the selected PageBufferType
HQN-381473	(Support #3389) Correct rendering of simple luminosity soft masks that contain a non-identity TR entry
HQN-381477	Improve multi-threaded scalability of task system
HQN-381520	Adjust limits on SnapImageEdges and SnapRectEdges to improve snapping of graphics
HQN-381544	Rationalize interactions between ImagingBBox, RasterBBox, RasterDeviceBBox and scaling and orientation page device parameters
HQN-381551	(Support #125998) Don't error when font loading at start-up if fonts are not available
HQN-381552	Protect TIFF reading code from problems in low memory, and optimize for speed
HQN-381557	(Support #3400) Correct rendering of glyphs with very large font bounding boxes
HQN-381569	Customise installer names etc as requested by OEMs
HQN-381571	Correct transparency compositing optimizations when uncolored patterns are involved
HQN-381577	Add a new softwareiomode for image files processed through HqnImage
HQN-381579	Stop reading clipped image data early if execution is not affected
HQN-381585	Ship LDKUtils 2.0 with Harlequin 13
HQN-381588	Don't return PrivateKeyPasswords in currentpdfparams
HQN-381618	(Support #3413) Improve purging of font stores in low memory situations
HQN-381639	(Support #125731) Correct dates reported in system monitor of localized RIPs running on non-Latin versions of Windows
HQN-381649	(Support #126025) Correct issues in reporting of job and file names in localized RIPs
HQN-381657	(Support #3445) Accept indirect references in PDF annotations' AS array
HQN-381682	Enable the use of eHVD and media matching together
HQN-381688	Update Japanese localisation for v13
HQN-381711	Extend options for colorants on the HMR Separation Manager

Reference	Description
HQN-381712	Provide a UI in HMR to control Processing Steps
HQN-381713	Prevent the text shown for "English with system locale" from being truncated
HQN-381720	(Support #3459) Read UTF-8 encoded CSV files for dynamic overlays
HQN-381756	Minimize colorant set in groups and backdrops for each page for speed
HQN-381774	(Support #3469) Correct processing of strings of Type 3 CJK characters when the string ends with a space
HQN-381795	Update installers to include the runtime distribution for VS2019
HQN-381799	Adjust Watermark RIP drop dead date for v13 to 30 Sept 2021
HQN-381813	Amend eHVD event API in support of tiling and to improve future maintainability
HQN-381887	Add a "Check for Updates" menu option to HMR
HQN-381979	(Support #3523) Rip output not expected – a black box is obliterating expected text.
HQN-382003	Correct HqnColorDatabase handling of very short spot names
HQN-382158	Update LDK runtime to v7.103
HQN-382167	Accelerate screened output with many shfills



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Harlequin® MultiRIP™ v13 Release Notes

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