



## HARLEQUIN<sup>®</sup> Server RIP (v9.0)



**The Harlequin RIP<sup>®</sup>** continues to outpace other RIP technologies by delivering exceptionally high-performance to process today's print jobs across a wide range of devices and workflows. It's compliant with industry standards and compatible with PDF creation tools. It's also extremely flexible: OEMs and ISVs can deploy the

Harlequin RIP purely as a RIP and rebrand it with their GUI, or, they can deploy it as a near turn-key solution, taking advantage of workflow options that include in-RIP trapping, screening, proofing, color management, imposition and font emulation. What's more, this well-respected technology is sensibly-priced. Find out more by contacting: [info@globalgraphics.com](mailto:info@globalgraphics.com).

### Performance

Print runs are getting shorter, and a growing proportion of jobs are being printed digitally. As a result the demand for throughput in prepress is continuing to rise. The Harlequin RIP has had a reputation for meeting that demand for speed ever since it was first launched. Version 9.0 continues to demonstrate a commitment to deliver ever faster systems, which is why it's been chosen by vendors of ultra-high volume inkjet presses and for major newsprint systems, as well as for commercial and other print sectors.

### PostScript and PDF in one RIP

Your customers need the ability to handle mixed workflows and a RIP that can process PostScript and PDF natively in one engine will be faster and more efficient. One RIP interface that handles multiple file formats is easier for the OEM to integrate and you have just one set of color management, screening, imposition etc. to understand, and, if required, connect to. With only one RIP interface to learn there is less of a training overhead for your customers with the assurance that they will achieve consistency of output. The Harlequin RIP has processed PostScript<sup>®</sup> files natively since 1988 and PDF files natively since 1997, including rendering of live PDF transparency since 2002. It also processes XPS, the Microsoft print and document format, natively. ( For full list see Features)

### Sensible price point

Since its introduction into a production system in 1988 Global Graphics' Harlequin RIP has earned a reputation for performance, quality and reliability at a sensible price point. Version 9.0 was introduced in September 2011 and Global Graphics continues to invest significant resources in the development of this technology.

### Flexible licensing for your customers

Market conditions over the past few years have put increasing pressure on print companies and many wish to spread the cost of new equipment across a longer period of time. Included in Version 9.0 is technology to support you to lease a RIP as part of a complete solution or even sell it on instalment plans.

### One RIP to drive many devices

Drive your pre-press and printing equipment using one RIP that is simple for your customers to use. They will benefit from working in one common operating environment and will achieve consistency of output across plate-making, CtP, proofing devices, digital presses and inkjet printers including including hybrid workflows.

### In-RIP workflow

The rich feature set in the Harlequin RIP means that OEMs and system integrators can build a wide variety of solutions, fine-tuned for specific use cases. Many processes can be handled within the RIP including trapping, screening, color management, proofing, imposition and font emulation.

### Compatibility and compliance

Global Graphics has been active in its support for technical standards over the years but appreciates there is a balance to be struck between compliance with specifications and compatibility with real-world print jobs. Our RIP technology reflects this pragmatic approach: it is compliant with industry standards (see Features) as well as being compatible with the wide variety of tools making PDF in the field.



*The Harlequin RIP was the first product to be JDF certified by CIP4 following testing by the Printing Industries of America/Graphic arts Technical Foundation.*



# What's new in version 9.0?

## Spreading the cost of ownership

OEMs can lease RIPs to their customers or even sell on an instalment plan

## Extended color support

Harlequin RIPs® were among the first to include in-RIP color management. Accuracy and efficiency have been improved ever since.

- Color accuracy: improvements for proofing, making CtP plates or driving a digital press. Reduced color errors for any given printer, ink, media, screening and resolution combination and optimized use of the printer's gamut
- FograCert Contract Proofing System certified using the new plugin for the Epson Pro 7890 proofer including validation of PDF/X conformance by correct rendering of the FOGRA Cert PDF/X-Output testform (based on GWG patches)
- PANTONE® Plus: full support for the new PANTONE Plus library, as well as PANTONE Goe™
- Calibration: a new API that allows vendors of press color control solutions to directly submit plate calibration sets into the RIP without manual intervention.

## Newly supported platform

- Windows Server 2008 R2.

## Increased optimization for PDF files with live transparency

Accelerates the speed of processing transparent pages significantly. The Harlequin RIP has rendered live PDF natively since 2002.

## Variable data print

- External PDF retained Raster: a new external mode for this feature that accelerates VDP jobs for digital production presses. It allows the RIP to deliver page foregrounds and backgrounds as rasters for management and aggregation outside the RIP to give additional speed increase.
- PDF/VT support: provides the technology required to build a Digital Front End (DFE) that is fully compliant with the PDF/VT standard (ISO 16612-2:2010). All VDP jobs submitted as PDF are processed at maximum performance.

## Roaming negative pages

Faster, easier and less error prone inspection by allowing the operator to view them in positive mode.

## Additional screening option

Added option for cross-modulated screening (HXM™) geared explicitly towards use on lower resolution devices between 900 and 1500 dpi.

## PDF standards support

- Extended PDF/X support: the RIP will apply color management and overprint control as required by PDF/X-4p:2008; PDF/X-4:2010; PDF/X-4p:2010; PDF/X-5g and PDF/X5-pg. It can also be configured to reject jobs that do not conform to a specific standard. These are in addition to the existing support for PDF/X-1a, 3 and 4.
- PDF update after ISO 32000-1: Version 9.0 uses the corrected equations for calculating ColorDodge and ColorBurn transparency blend modes as defined in ISO 32000-2 - expected in 2012.
- Japan 1-6 character collection: support for those cases where the required font is pre-installed in the RIP as well as when embedded within the PDF.

## Extended Try Before You Buy

Allows users of previous version to run Version 9.0 for a trial period before upgrading.

# Workflow options

The Harlequin RIP® offers workflow options that run inside the RIP enabling near turn-key implementations by OEMs.

## Color management & proofing

Available with the Harlequin RIP is Harlequin ColorPro™ which provides excellent color management, giving accurate, consistent and predictable color reproduction for a wide range of ICC-based workflows. Harlequin SetGold Pro™ is a utility for making high quality input and output profiles that are tightly integrated with the Harlequin RIP and optimizes the quality of the color output of the printing or proofing device. ProofReady™ plugins provide OEMs with the tools they need to deliver 'out of the box' color proofing. A Color Management Module (CMM) API also allows OEMs to easily add their own or third party color management

## Font emulation

The Harlequin RIP has one of the most advanced font emulation capabilities on the market. Where there is a missing font, this feature can be switched on to make a typographically acceptable match with no text overflow and, where character spacing, weight and width matches that of the missing source. This patent-pending feature is the winner of a 2007 PIA/GATF Intertech™ technology award.

## JDF-enabled

Harlequin RIPs are JDF-enabled; they are able to process jobs passed to them from a JDF source. The Harlequin RIP Genesis Release (v.7.1) was the first product to be officially CIP4 certified following testing by the Printing Industries of America /Graphic Arts Technical Foundation, against the Layout Creator to Imposition (LayCrmp) ICS and Base ICS.

## In-RIP trapping

Our best-in-class, powerful trapping solution, Harlequin TrapPro™, is the result of extensive internal development. This in-RIP trapping technology handles trapping automatically, as the page is processed in the prepress workflow. Trap configuration can be set in-RIP, or supplied using industry-standard controls in PostScript and PDF jobs.

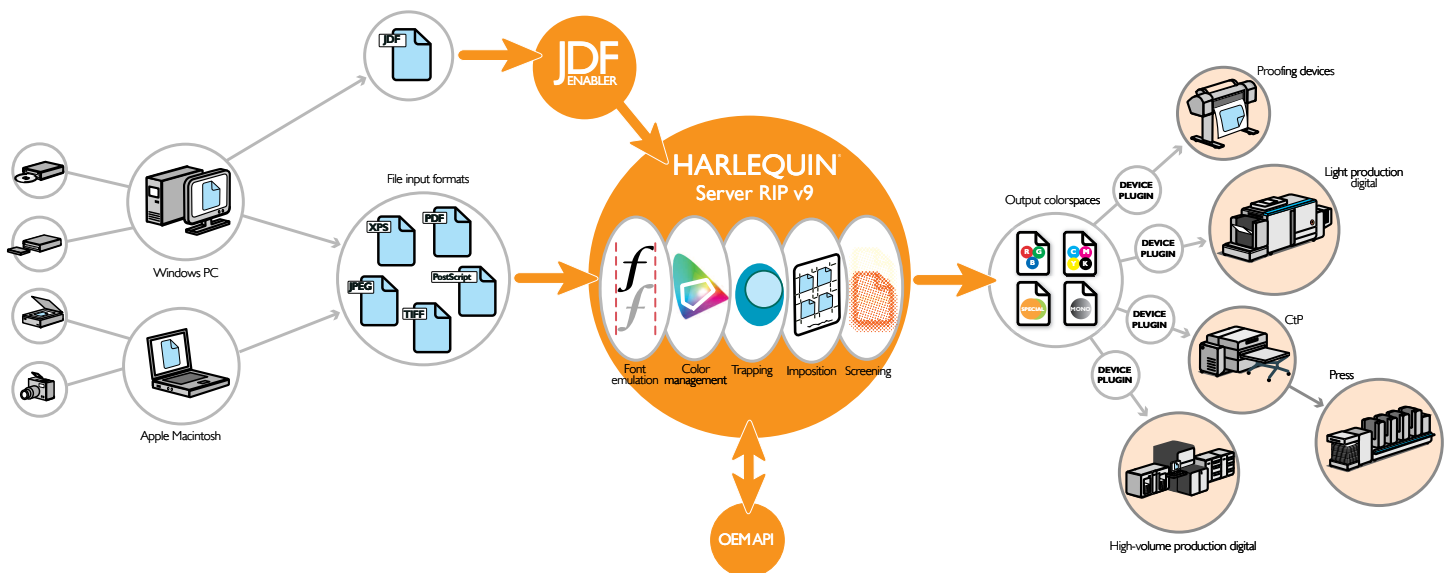
## Simple imposition

Simple Imposition is an optional in-RIP imposition capability which can be used for bound work, N-up, cut & stack and step & repeat. Imposition management is accessed and edited easily through simple, graphical GUI controls accessed directly from the Page Setup dialog within the RIP.

## Screening

Global Graphics is at the forefront of screening technology and holds extensive patents. The Harlequin Screening Library™ (HSL™) is a collection of advanced screening techniques designed to resolve the quality issues faced by the pre-press and printing industry and includes our patented solution for high quality stochastic screening - Harlequin Dispersed Screening (HDS), as well as special screen sets developed specifically to support N-color applications and photo inks.

Harlequin Cross-Modulated Screening (HXM) is a hybrid screen that builds on the best aspects of conventional and stochastic screening. A screening API allows OEMs to easily plug in their own screening algorithms or a complete screening solution of their choice. Third party screening solutions such as Auraia from Hamillroad Software can also be used with the Harlequin Server RIP.



# Features

new in version 9

<b>Input file types</b>	<p>PDF 1.0, 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, ISO 32000-1</p> <p>PDF/X-1a:2001 &amp; PDF/X-3:2002, PDF/X-1a:2003 &amp; PDF/X-3:2003</p> <p>PDF/X-4:2008, PDF/X-4p:2008, PDF/X-4:2008, PDF/X-4p:2010</p> <p>PDF/X-5g:2008, PDF/X-5pg:2008, PDF/X-5g:2010, PDF/X-5pg:2010</p> <p>PostScript® levels 1, 2 and 3, EPS, DCS (1 &amp; 2)</p> <p>XPS 1.0</p> <p>JPEG, TIFF™</p> <p>Enables OEMs to build PDF/VT-compliant DFEs</p>
<b>Input data sources</b>	<p>Jobs and control files can be received from: hot folder, socket, serial, Windows print subsystem etc.</p> <p>Input plugin API enables Global Graphics' OEM partners to write plugins for additional delivery protocols and hardware</p>
<b>Color management</b>	<p>Harlequin ColorPro™ color management module (CMM)</p> <p>Support for RGB, CMYK, N-Color, gray and DeviceLink ICC version 2 and 4 profiles</p> <p>Press/Proof Simulation</p> <p>CMM API allows replacement with OEM's own IP</p> <p>SetGold™ utility: gray balance and ink limiting before profiling</p> <p>FograCert certified contract proofing system (when used with Epson Stylus Pro 7890 and according to the application data sheet)</p>
<b>Trapping</b>	<p>Harlequin TrapPro™ (optional)</p> <p>Trap Zone support</p>
<b>Font support</b>	<p>PostScript Type 0, Type 1, Type 2 (CFF), Type 3, Type 4, Type 32, Type 42 (TrueType)</p> <p>TrueType, TrueType collections (.ttc) and OpenType</p> <p>CID fonts, including TrueType based 'New CID'</p> <p>Morisawa® PS Fonts CID/OCF (optional, requires license with Morisawa)</p> <p>Demand Loadable Fonts (DLD1)</p> <p>Extensive CJK support, including Adobe® Japan I-6 character collection</p>
<b>Other font features</b>	<p>User defined font substitution</p> <p>Font emulation – patent pending, GATF Intertech award winner, 2007</p> <p>Automatic job cancelation when fonts not available</p> <p>Font rendering API, allowing addition of new font engines</p>
<b>Supplied fonts</b>	<p>Base 35 core Linotype® Fonts (optional)</p>
<b>Variable data optimisation</b>	<p>PDF Retained Raster caches common graphical elements for re-use.</p> <p>Internal mode enables easy access to acceleration</p> <p>External mode increases benefit, requires technology to re-combine rasters post-RIP. Includes auto-masking of marked areas.</p>
<b>Calibration</b>	<p>Calibration, dot gain, tone curve controls</p> <p>Intended and actual press curves</p> <p>Genlin™ utility: auto-import of calibration values</p> <p>API to enable addition/replacement of calibration curves by third party prepress equipment</p>

<b>Screening</b>	Includes AM/FM screening tuned for a variety of devices: <ul style="list-style-type: none"> <li>• Harlequin Precision Screening™ (HPS)</li> <li>• Harlequin Dispersed Screening™ (HDS). Patented FM/Stochastic screening. Variants available for digital print, proofing, and a variety of traditional print technologies (Optional)</li> <li>• Harlequin Error Diffusion Screening™ (HEDS) 1- and 2-bit available, designed for proofing (Optional)</li> <li>• Harlequin Cross-Modulated screening (HXM) (Optional)</li> <li>• Support for encrypted screen caches enables secure deployment of cacheable screens</li> <li>• Screening API enables addition of OEM's own IP in programmatic screens for error diffusion, etc. Also enables third-party screening such as Auraia from Hamillroad Software</li> </ul>
<b>Output devices</b>	Optional proofing Plugins available for Epson Stylus Pro: <p>4880, 4900, 7880, 7890, 7900, 9880, 9890, 9900</p> <p>OKI Data c9650 plugin (optional)</p> <p>Output plugin API enables Global Graphics' OEM partners to write plugins for many output devices</p>
<b>Output formats</b>	Rasters delivered in wide variety of color spaces, interleaving styles, etc. Contone or screened. <p>Plugins available for creation of:</p> <ul style="list-style-type: none"> <li>• TIFF, supporting separated and composite color, screened and contone output</li> <li>• CIP3 for ink-key pre-setting (optional)</li> <li>• PDF wrapped raster for soft-proofing of the actual results from the RIP</li> <li>• TIFF/IT-PI (optional).</li> </ul> <p>Output plugin API enables Global Graphics' OEM partners to write plugins for many output file formats</p>

## System requirements

<b>Windows</b>	XP, Vista, 7, Server 2003, Server 2008, <b>Server 2008 R2</b> Compatible with 32- and 64-bit operating systems (can access more RAM under 64-bit Windows) Processor: Intel Pentium 4 or later, AMD Athlon 64 or later.
<b>Mac® OS X</b>	10.4 (Tiger), 10.5 (Leopard), 10.6 (Snow Leopard) Mac OS X Server & workstation Processor: 10.4 & 10.5: PowerMac G3, G4, G5; Intel Mac 10.6 Intel Mac
<b>All systems: RAM</b>	1 GB (32-bit OS) or 2 GB RAM (64-bit OS) <ul style="list-style-type: none"> <li>• Use of PDF Retained Raster requires additional RAM</li> <li>• Processing speed will normally be greater with more RAM.</li> </ul>
<b>Storage</b>	4 GB free space (minimum)
<b>Ports</b>	USB port for the Sentinel security dongle.
<b>CD-ROM</b>	CD-ROM drive for installing the Harlequin RIP

For a full specification visit:  
<http://www.globalgraphics.com/products/harlequin RIP/specs.html>

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