There are three products in the Direct product range allowing you to choose the right entry point depending on your existing investment in technology:

DIRECT™

Go Direct to unlock the full potential of your next digital printer
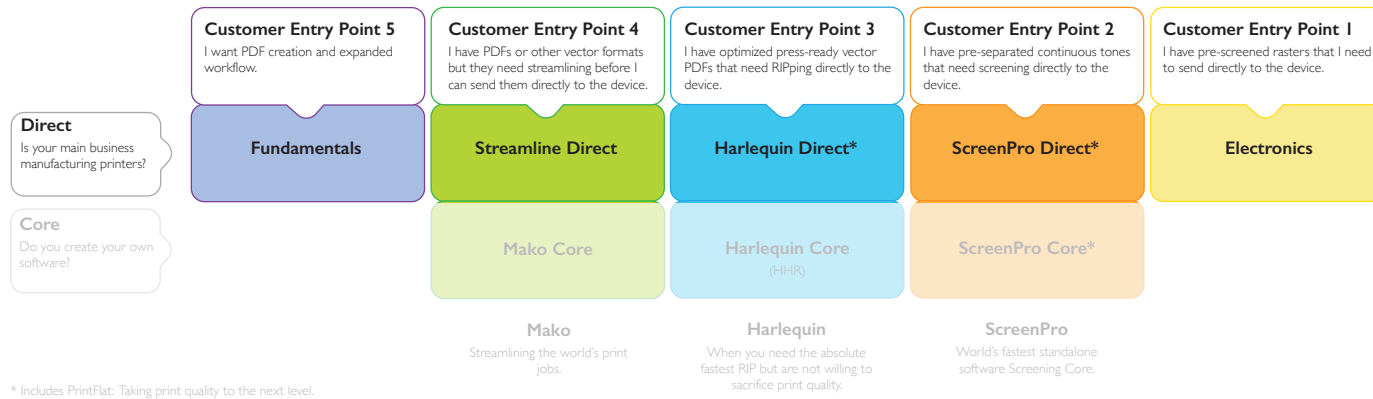
SCREENPRO DIRECT™

Already have a RIP or are your customers' print jobs already in an image format? ScreenPro Direct gives you everything you need to take continuous tone rasters (images) from any RIP and then screen and stream them at maximum physical print speed directly to the head driver electronics. ScreenPro Direct includes our award-winning PrintFlat technology to help take your device's quality to the next level.

HARLEQUIN DIRECT™

Are your customers' jobs submitted as print-ready streamlined PDFs? Harlequin Direct gives you everything you need to take print-ready PDFs and then RIP, screen and stream them at maximum physical print speed directly to the head driver electronics. Harlequin Direct includes our award-winning PrintFlat technology to help take your device's quality to the next level.

STREAMLINE DIRECT™

Will your customers' print jobs arrive from many PDF sources and creators? Do you need to support non-PDF formats? Not all PDFs are created the same. Streamline Direct will check each PDF, allowing your customer to reject any that are likely to slow your device down. Streamline Direct can also be used to streamline any problem PDF to achieve the same output quality whilst maximizing your device speed. If your market requires non-PDF formats, Streamline Direct can be used to convert many formats to print-ready PDFs.

	Customer Entry Point 5	Customer Entry Point 4	Customer Entry Point 3	Customer Entry Point 2	Customer Entry Point 1
	I want PDF creation and expanded workflow.	I have PDFs or other vector formats but they need streamlining before I can send them directly to the device.	I have optimized press-ready vector PDFs that need RIPping directly to the device.	I have pre-separated continuous tones that need screening directly to the device.	I have pre-screened rasters that I need to send directly to the device.
Direct Is your main business manufacturing printers?	Fundamentals	Streamline Direct	Harlequin Direct*	ScreenPro Direct*	Electronics
Core Do you create your own software?		Mako Core	Harlequin Core (HHR)	ScreenPro Core*	
		Mako Streamlining the world's print jobs.	**Harlequin** When you need the absolute fastest RIP but are not willing to sacrifice print quality.	**ScreenPro** World's fastest standalone software Screening Core.	

* Includes PrintFlat: Taking print quality to the next level.

Fundamentals™

Are you aiming your printer at the label and packaging market? Do you want to supply award-winning PDF creation and advanced workflow as standard with your product? Fundamentals bundles our Direct products with STEPZ and CLOUDFLOW from our partner, HYBRID Software.
This gives you a single source of software fundamental to a label and packaging solution for a digital press.

STEPZ is an award-winning labels and packaging composition tool, featuring:
- PDF editing
- Variable Data Imposition
- Nesting and Step and Repeat
- Warping for 3D objects
- Interactive trapping

CLOUDFLOW is a compact, modern, and modular system for running automated graphics production workflows on a private or public computing cloud.

GLOBAL GRAPHICS® software

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GLOBAL GRAPHICS® software

THE QUEEN'S AWARDS FOR ENTERPRISE: INNOVATION 2020

April 2020 v1

The power of a digital printer is in the software that drives it. Direct is a new class of print software that drives print jobs directly to the printer electronics, without ever touching a disk. Direct unlocks the potential of your digital printer, breaking through all the software barriers for the next generation of faster, wider, higher resolution devices.

WHAT ARE THE "SOFTWARE BARRIERS" AND HOW ARE THEY REMOVED?

Bringing any digital printer to market has many technical barriers; some will be familiar to traditional print vendors (inks, mechanics and control systems), others will be new. By far the largest of new technology barriers is the role that software plays in unlocking all of a digital printer's possibilities. Each software barrier represents a quantum leap in speed and PC hardware cost:

1. Static data: Replacing traditional presses with digital allows short runs of "print to order", reducing waste and storage, but the challenge is in retaining output quality. Our PrintFlat™ technology is designed to help you achieve this in software.

2. Mixed variable and static data: Running print jobs that have mostly static data with defined zones of variable data (e.g. labels with text and barcodes) requires a focus on image (raster) data speed. Intelligent raster caching techniques for the static page areas can result in huge reductions in the amount of data.

3. Fully variable data: To produce pages or printed items (in a production run) that are completely unique and personalized, ultra-high data speeds are required. Breaking through this barrier requires an integrated graphics pipeline, with massively parallelized RIPs and screeners, that can drive head driver electronics across multiple PCs.

THE DIRECT SOLUTION

Our integrated software pipeline has been engineered to break through all three barriers in one go, meeting the demands of fully variable data from the outset and giving you the option to use lower performance PC hardware for less demanding (static or mixed data) jobs.

This is achieved by RIPping on the fly and streaming image data in memory directly to the printer electronics (e.g. Meteor PCCEs).

*   No need to waste the time to RIP ahead to disk
*   No need for huge image stores holding vast amounts of data
*   Designed to be part of a fully automated print solution, supporting Industry 4.0 telematics and integration with PLCs and MIS systems
*   Feedback from the print line (e.g. a quality inspection system) can help automatically correct for any issues as they occur.

CAN WE BUILD THAT OURSELVES FROM YOUR CORE COMPONENTS?

Yes, it is possible to build extremely fast image (raster) pipelines from our core technologies (Harlequin®, ScreenPro™ and Mako™) as they have been designed to be the fastest and highest quality components. However, the engineering required to get the performance needed for a full "barrier-busting" image pipeline is highly specialized and requires a lot of time and resources.

GLOBAL GRAPHICS IS UNIQUELY POSITIONED

When aiming for the highest possible image pipeline speed, it's important to be able to integrate with tight knowledge and access to each component, to squeeze out every bit of performance. You can only do that if you have control and access to all components. Global Graphics Software is uniquely placed in the market as we have access to every line of code for every component; we don't need to request features and knowledge from any third-party suppliers.

Print-ready PDF creation

Workflow and job queue management

RIPing

Printhead drive electronics

STEP Z

STREAMLINE DIRECT™

Fundamentals™ for labels and packaging

Fundamentals combines Direct with HYBRID Software products to create a complete label and packaging software solution.

CLOUDFLOW®

PDF JOB

HARLEQUIN DIRECT™

CONTROLLER RIP

FARM RIP
FARM RIP
FARM RIP
FARM RIP

SHARED MEMORY

SCREENPRO
SCREENPRO
SCREENPRO

PACK
PACK

PrintFlat™

SCHEDULER

STREAM OUTPUT

HARDWARE.DLL

HARDWARE (DRIVER ELECTRONICS AND PRINT HEADS)

meteor READY

Supports OEM electronics and is Meteor Ready