

Auraia (Digitally Modulated Screening) Data Sheet

Auraia screening, so named after the Greek word for 'beautiful' ('ὠραῖος'), belongs to a new class of screening developed by Hamillroad Software, called Digital Modulation (DM) Screening.

Utilising the immense compute power available with modern computers, DM screening is so named because it digitally modulates each and every pixel that it produces, rather than repeating a fixed pattern of dots (as in AM screening) or randomly marking a pixel (as in FM screening). The result is an unprecedented quality of screening, which is easy to plate and print using any CtP device (including violet, UV and thermal).



The screening analyses each pixel it produces to ensure that no dot is too small to plate or print, no 'non-dot' is too small to fill-in and no dot or 'non-dot' is too large so as to be visible. Dots are created in a carefully controlled manner, to ensure detail is placed exactly where it is needed, vignettes are smooth and flat tints are, well 'flat'. It cleverly modulates each pixel based on a deep understanding of laser optics, plate technology, printing press behaviour and ink flow to ensure that dot gain is eliminated, resulting in the complete removal of patterning artefacts and graininess.

The result of this is a quality of print, especially on violet devices that was previously unachievable.

Based on years of research and experience, the patent pending screening represents a fundamental change in the expectation a printer should have on the quality of print that is achievable. No longer are printers restricted by issues with moiré, mis-registration, rosette drift, color shifts, banding, dot gain, dot loss, shadow loss, etc... but they are free to do what they do best - print 'beautiful' pages.

Highlights

- High quality prints equivalent to 350/450 lpi
- Moire free - both screening and content
- Hilite dots down to 0.5% and less
- Shadow dots up to 99.5% and more
- Smooth vignettes and flat tints
- Works on violet, UV and thermal systems
- Potential ink savings of 10-15%
- Large minimum dot size of 20-40 microns
- Easy to plate and print on press

Features and Benefits

Print Quality

At the heart of the Auraia screening engine is a breakthrough in technology which eliminates the issues of dot gain and the problems that result from that. Not only are issues of patterning and graininess eliminated, but banding caused by calibrating for dot and ink gain is eliminated.

The carefully controlled dots produce prints equivalent to a traditional 250, 350 or 450 lpi at 2400 / 2540 dpi, with incredible detail throughout an image, as well as hilite & shadow detail rarely seen before.

Ease of use

The Auraia screening is available as a plugin for the popular Harlequin RIP; although versions 6, 7 and 8 of the RIP are supported, both Mac and PC, the latest version 8.1 is recommended because it provides genuine 16 bit screening, offering an incredible 50,000+ levels of gray per color.

Installation is easy and is performed by simply printing a PostScript file and rebooting the RIP, as is activating the screening (which is linked to the RIPs dongle). The screen is then selected from the Harlequin RIP's 'Separation Manager' 'Edit Style' just like any other screen.

Plate calibration

Plate calibration should be performed as usual, although we do recommend using an 'FM' mode on a plate reader if available. However, since the gain on an uncalibrated plate and press is not far off linear (due to the unique Dot Gain Reduction technology), it is quite feasible to just calibrate the press using a spectro-photometer if the plate is not calibrated.

Press calibration

Press calibration is also required if calibrating the plates, as the ink savings inherent in the screening are produced as a result of the small dots that are used. However, due to the controlled manner in which the dots are modulated, a simple 'pull back' Press Curve can be used to produce good results.

Specification

Tested / Supported Devices

Basysprint (710S, 741 and 851-F)	1500 dpi
Dotline Violight 85	2540 dpi
ECRM DPX / DPX-2 / DPX-4	1800 to 2540 dpi, 2032 dpi recommended
ECRM Mako 2 / 4 / 8	1800 to 2540 dpi, 2400 dpi recommended
ECRM Mako 800	1800 to 2540 dpi, 2540 dpi recommended
ECRM News / Newsmatic	1016 to 1270 dpi, 1270 dpi recommended
EscherGrad Cobalt	2540 dpi
Heidelberg Suprasetter	2540 dpi
Kodak Magnus	2400 dpi
Screen PTR-8300	2400 dpi
Screen Ultima	2400 dpi

Other CtP devices will be tested / qualified over the coming weeks and months and added to this list.

Currently we are due to test/qualify:

Agfa Accento	FFEI Alinte 8
Creo Trendsetter	Heidelberg Topsetter
Luscher Xpose	Esko Spark (flexo)

RIPs Supported

- Harlequin RIP version 6.x (Eclipse Release)
- Harlequin RIP version 7.x (Genesis Release)
- Harlequin RIP version 8.0 (Plus Server RIP)
- Harlequin RIP version 8.1 (Plus Server RIP) *** Recommended ***

Operating Systems Supported:

- Windows 2000
- Windows XP
- Windows Vista
- Windows 7 (when Hqn RIP supports it)



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