Auraia Screening Data Sheet

Auraia Screening, so named after the Greek word for ‘beautiful’ (‘ὡραῖος’), is Hamillroad's second generation “Digitally Modulated” or “DM” Screening (“DMS”). Auraia DM Screening perfects stochastic screening as it not only achieves the high level of image detail long associated with FM stochastic screening, but also produces extremely smooth flat tints that are as smooth as, if not smoother than conventional AM screening.

Taking advantage of the immense computing power now available, DM Screening is so named because it digitally modulates each and every pixel it produces, precisely controlling not only the dots in each separation, but also between the separations so as to completely eliminate noise. It does this through the use of a "stochastic rosette", which interleaves the screens in all the separations. By doing so, it eliminates noise (and moiré). The "stochastic rosette" also maximises the amount of ink-on-paper and minimises the amount of ink-on-ink, which expands the available color gamut whilst eliminating color shifts on mis-registration.

The screening carefully 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 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 patented technology 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 400-500 lpi
- Moire free - both screening and content
- Hilite dots to 0.01% and shadow dots to 99.99%
- Extremely smooth vignettes and flat tints
- Works on violet, UV and thermal systems
- Ink savings of 12-18% (on top of any GCR)
- Large minimum dot size of 15-30 microns
- Easy to plate and print on press
- Retains input image detail of 600-800 dpi
- Fully optimised 64-bit version for HMR-10/11

Features and Benefits

Print Quality

At the heart of the Auraia DM Screening engine are a number of breakthroughs in technology which eliminate the issues of dot gain & random placement of dots and the problems that result from that.
The carefully controlled dots produce prints equivalent to a traditional 400-500 lpi screen at 2400 / 2540 dpi, with incredible detail throughout an image, as well as hilite & shadow detail rarely seen before. In addition though, it’s easy to plate and print.

Ease of use

Auraia Screening is available as a plugin for the popular Harlequin RIP; versions 8.3, 9, 10 and 11 are supported, both Mac and PC, which 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 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, even if calibrating the plates, as the ink savings inherent in the screening are produced as a result of the small dots that are used and these will produce different amounts of gain on press compared to conventional screening.

Specification

Tested / Supported Devices

Agfa Advantage / N	1200 / 1270 dpi
Agfa Polaris	1200 / 1270 dpi
Agfa Acento	2400 dpi
Agfa Avalon	2400 dpi
Agfa Xcalibur	2400 dpi
Basysprint (710S, 741 and 851-F)	1500 dpi
Creo Trendsetter News	1200 / 1270 dpi
Creo Trendsetter	2400 dpi
Dotline	1200 / 1270 dpi
ECRM News / Newsmatic / Newsmax	1200 / 1270 dpi
ECRM Nautilus	2400 or 2540 dpi
EscherGrad Cobalt	2540 dpi
FFEI Alinte 8	2400 or 2540 dpi
FFEI Luxel	2400 or 2540 dpi
Heidelberg Suprasetter	2540 dpi
Heidelberg Topsetter	2400 dpi
Highwater Cobra	2540 dpi
Highwater Python	2540 dpi
Kodak Trendsetter News	1200 / 1270 dpi
Kodak Generation IV News	1200 / 1270 dpi
Kodak Achieve	2400 dpi
Kodak Lotem	2400 dpi
Kodak Magnus	2400 dpi
Kodak Trendsetter	2400 dpi
Krause LSJet	1016 / 1200 / 1270 dpi
Screen PTR-4x00 / 6x00 / 8x00	2400 dpi
Screen Ultima	2400 dpi

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

RIPs Supported

- Harlequin RIP version 8.3 (Plus Server RIP)
- Harlequin RIP version 9 (Plus Server RIP)
- Harlequin RIP version 10 (Multi-RIP, both 32-bit and 64-bit)
- Harlequin RIP version 11 (Multi-RIP, 64-bit only)

Operating Systems Supported:

- Windows XP / Vista / 7 / 8 / 8.1
- Max OSX (Intel) 10.2 - 10.8