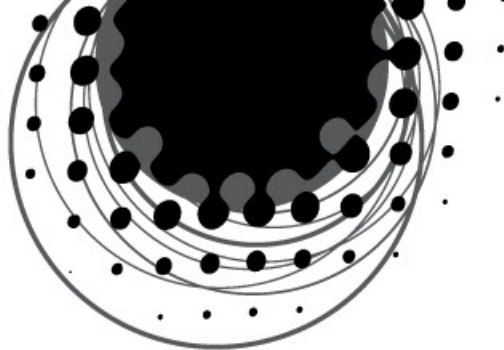
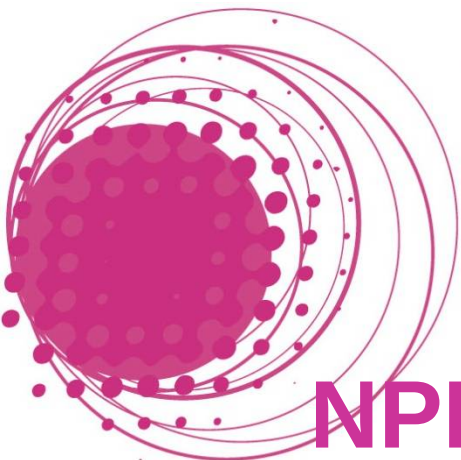




NPES-ICC Color Management Conference 2015

*“Manufacturing Success with
Color Management”*

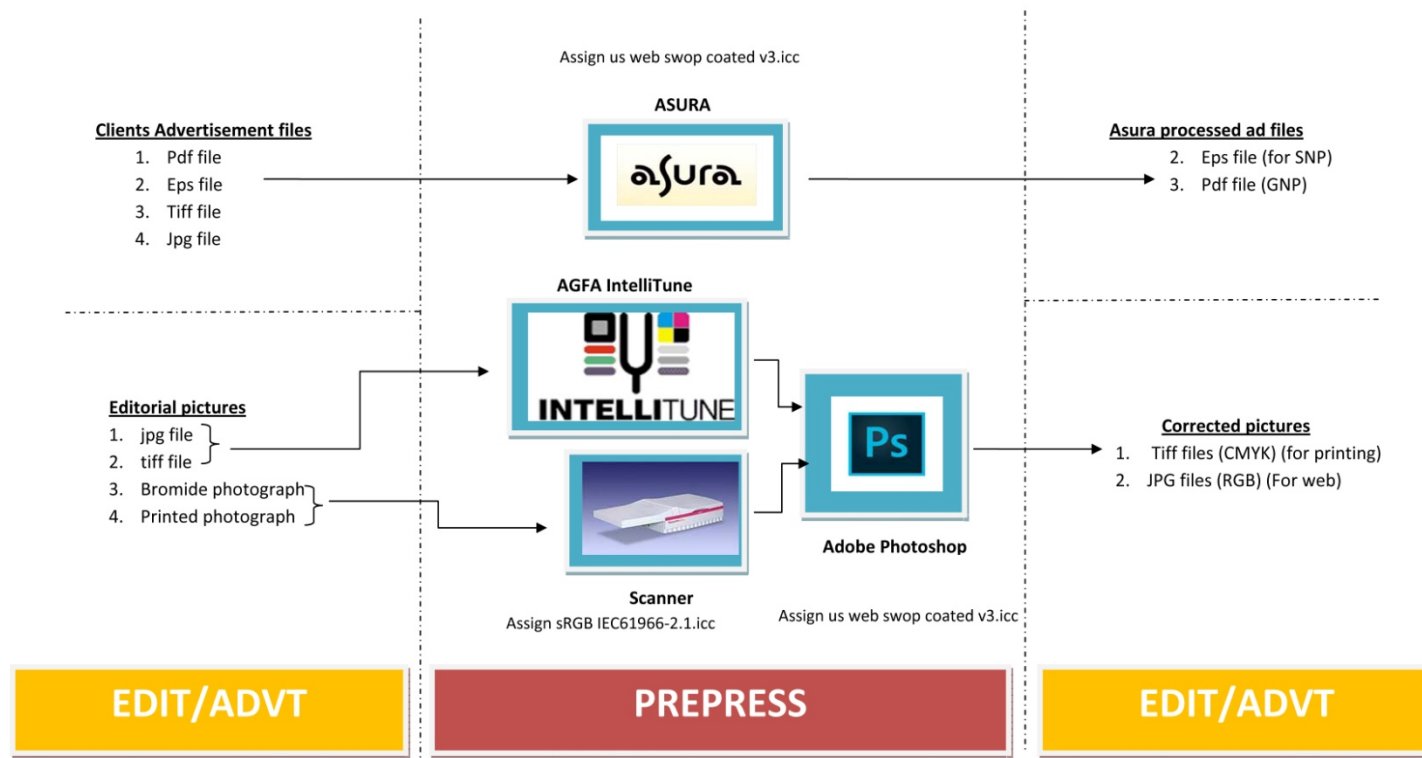
By

Snehasis C. Roy, ABP Pvt Ltd

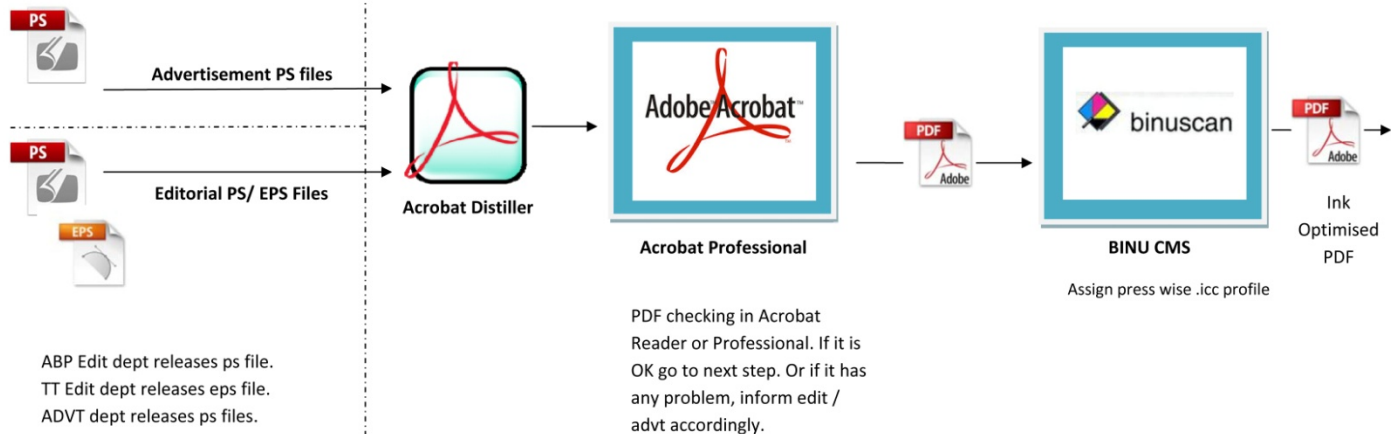
February 12, 2015 • India Expo Centre • Greater Noida, Delhi NCR



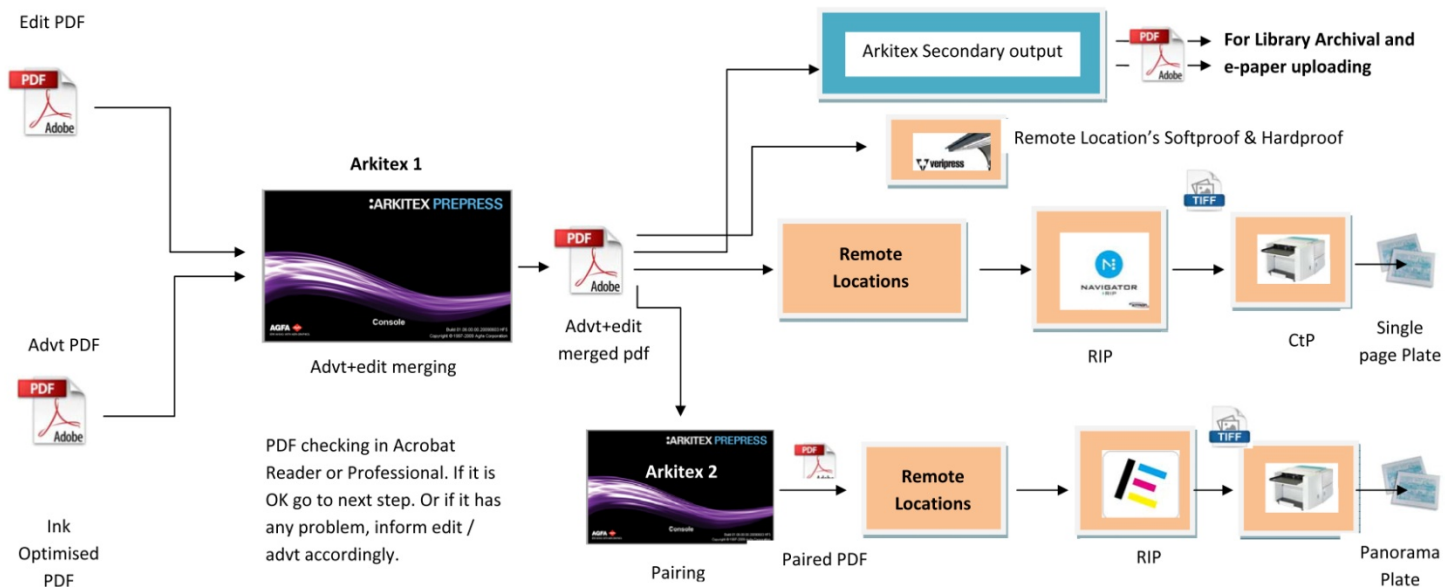
WORKFLOW PART 1



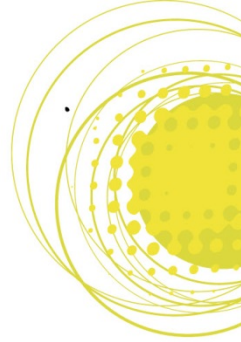
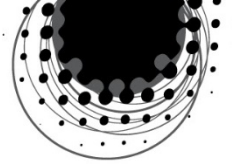
WORKFLOW PART 2



WORKFLOW PART 3

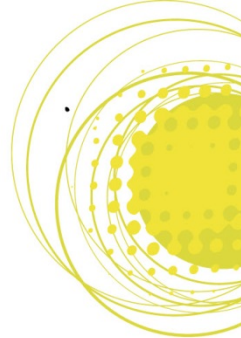
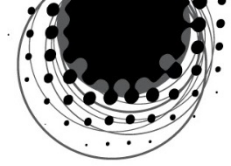


PREPRESS



Color Management

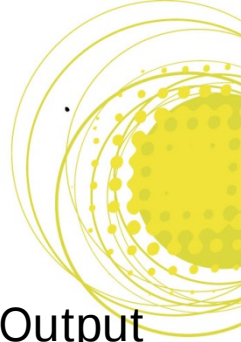
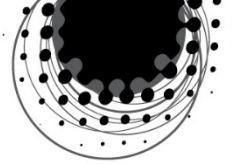
- CMS profiles are being used for Soft Proofing, Optimizing Ink & Managing Colour at the output PDF stage.
- This has resulted in optimizing 17% -20% ink thereby enhancing color. Result is better printing and cost savings.
- Color Management controls the conversion of colors represented by different spaces.
- Profiles are tagged to all devices for reproducing accurate and consistent colors across different media.



Color Management



- Customized color profiles were built specific to different paper shades at Soft Proofing.
- This has improved the quality of proof by accurately matching different substrate used at press.



How a color is reproduced

Original Viewing
with LAB color



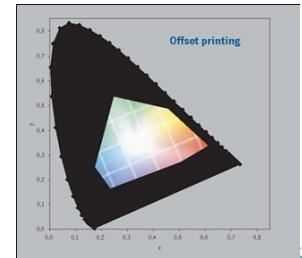
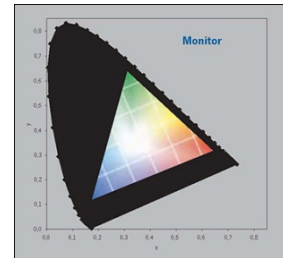
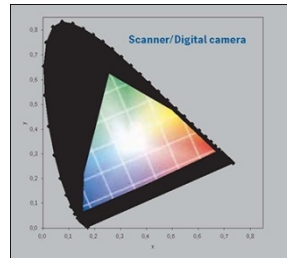
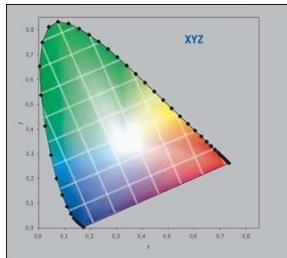
Scanner RGB

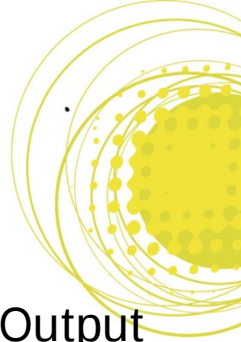
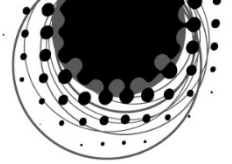


Monitor RGB



Print Output





Color Managed Workflow

Original Viewing
with LAB color



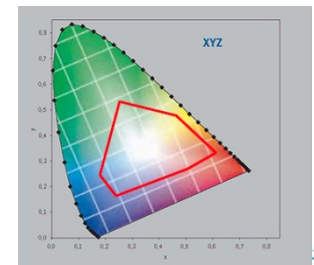
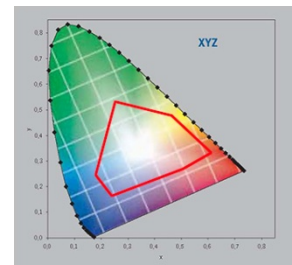
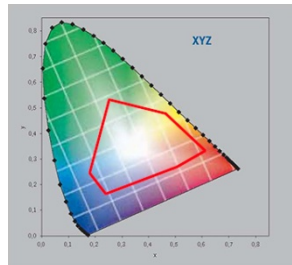
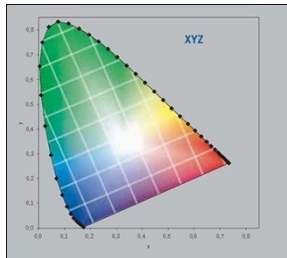
Scanner RGB

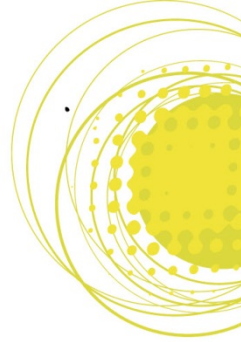
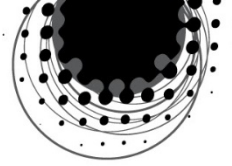


Monitor RGB



Print Output



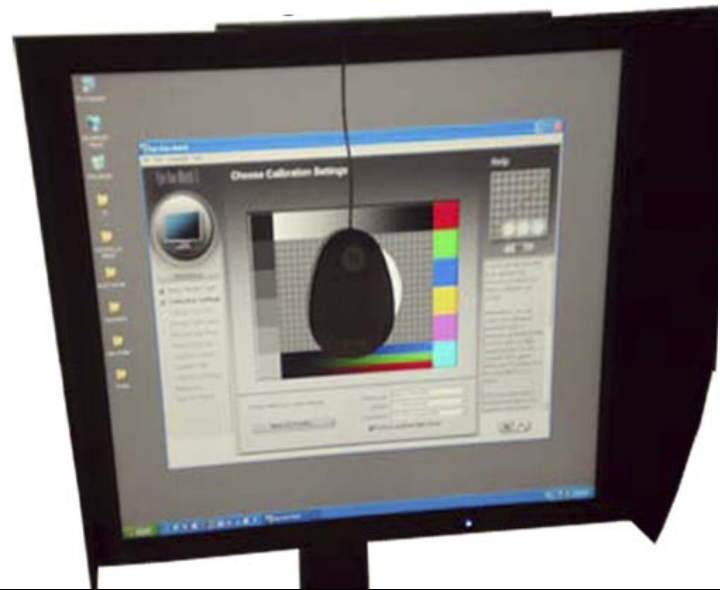


Calibration

To maintain quality of picture, calibration in each & every stage is important.

- **Calibration of Monitor .**
- **Calibration of Scanners.**
- **Calibration of Measuring Devices.**

Calibration of Monitor with i1 Display



- The spectrophotometer is placed on the monitor
- After launching the software a number of patches appear on the monitor and measured by the spectrophotometer
- The values are compared with the stored values in the software and the deviation is stored as icc profile

Eye-One Match 3

Calibrate all your devices!



V 3.6.1

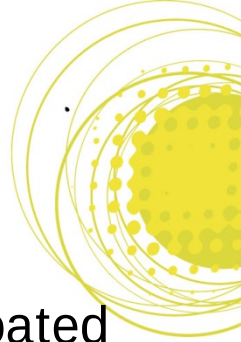
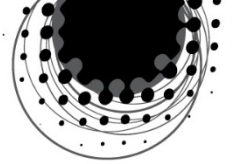
Calibration of Scanner



- IT8 target comes with a printed sheet with color patches accurately reproduced
- The values are stored in a reference file
- After scanning the target the values are compared with reference file values and the deviations are stored in icc profile.

Calibration of Measuring Devices





Press Profiling

- Color is printed differently on different media; viz. Newsprint, Coated paper etc.

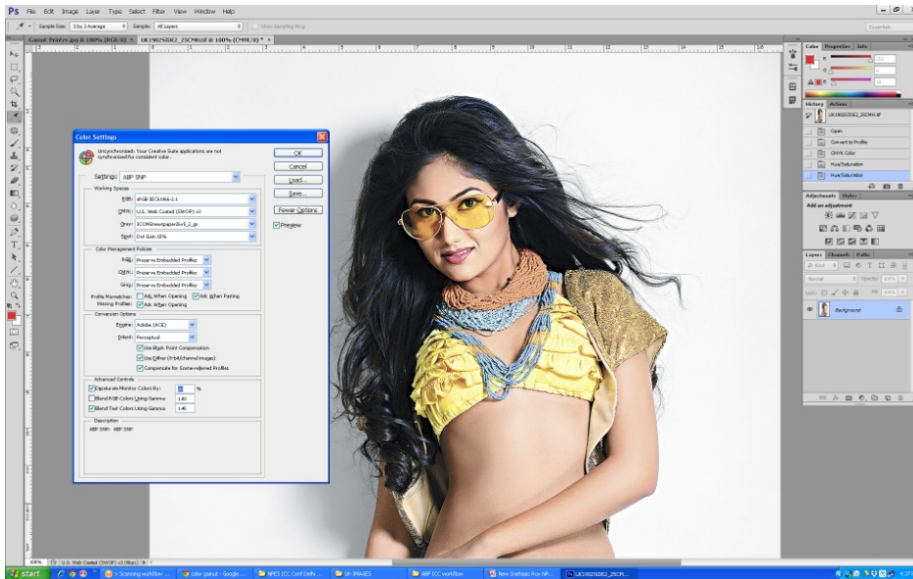
Coated Paper



Newsprint

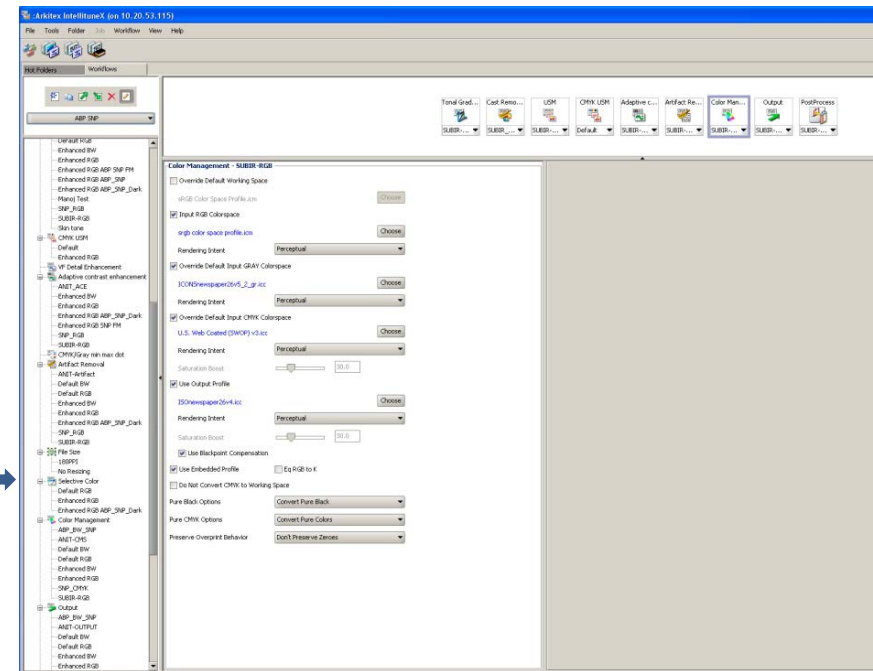


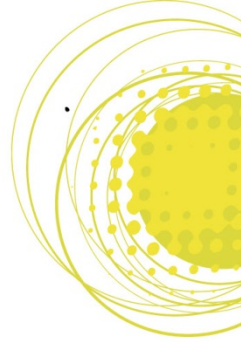
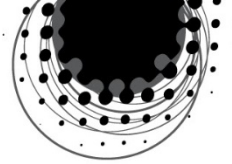
Color Correction Profiles



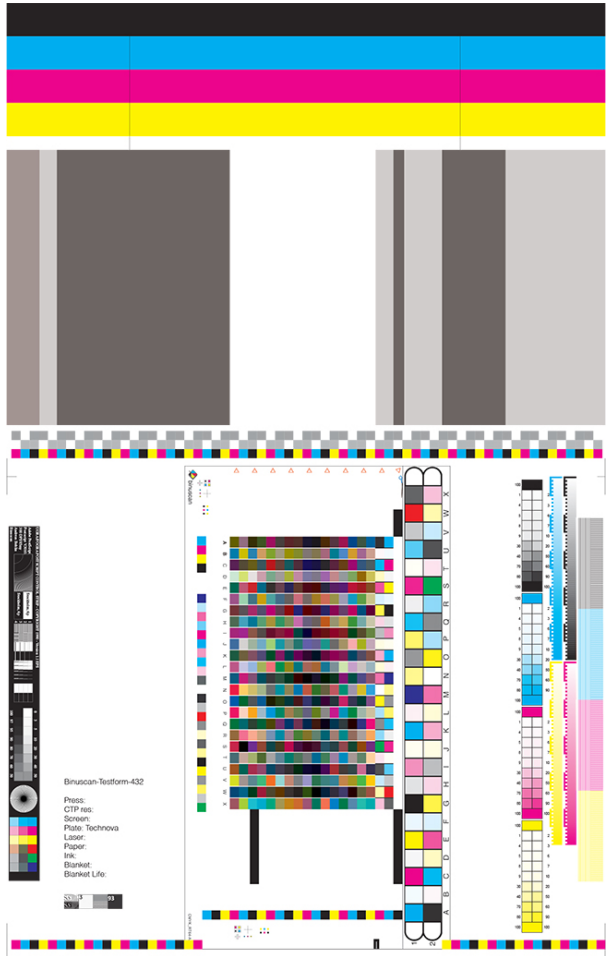
Color Profile assigned in Automatic Color Correction

Color Profile assigned in Manual Color Correction

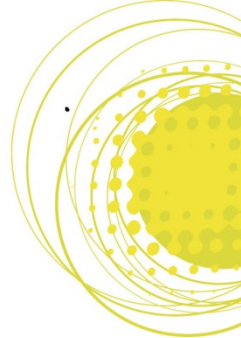
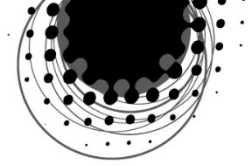




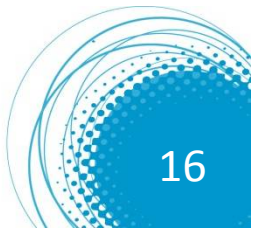
Press Profiling

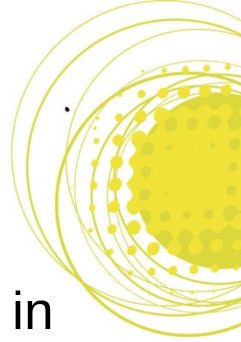
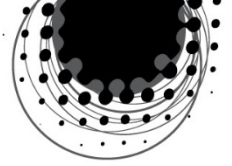


- A target sheet is printed and densities are measured with densitometer
- Spectrophotometer is used to measure color patches and the profile is saved for tagging to files

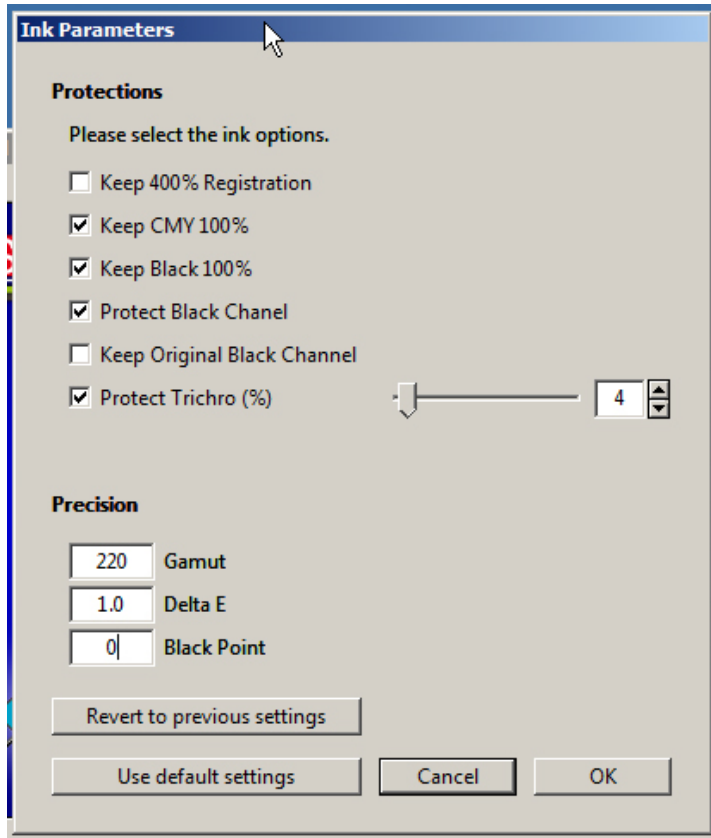


Press Profiling





Ink Optimization



- More ink not only causes problem in printing but also costs more.
- Through ink optimization the color inks are replaced by black but preserving the original Chroma, Hue & Saturation.

Original ink

C: 50

M: 15

Y: 100

K: 0

Total: 165

Optimized ink

C: 35

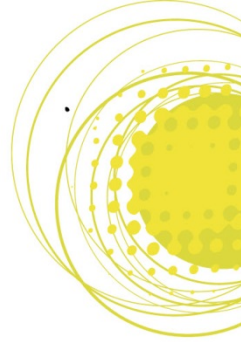
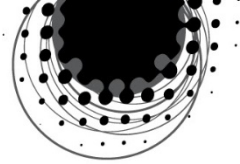
M: 0

Y: 85

K: 24

Total: 144

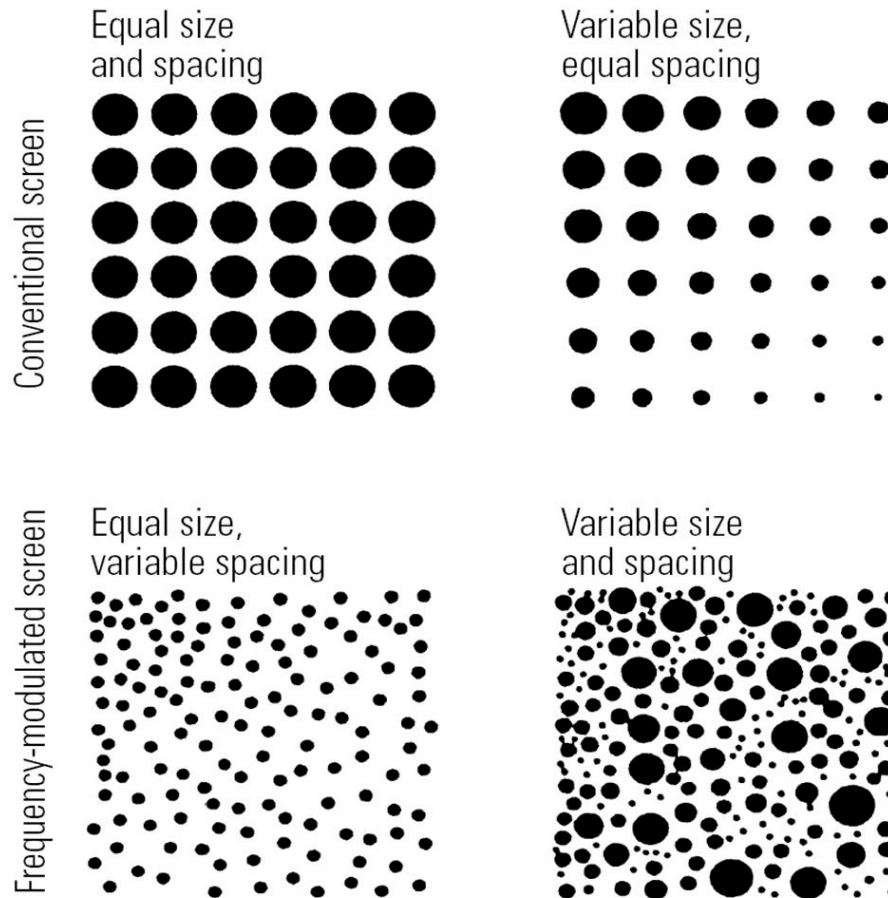


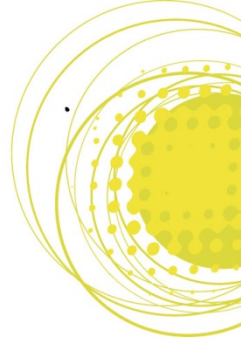
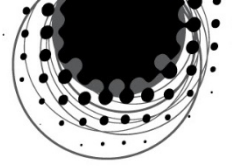


Profile Making



Different methods of Screening





FM Screening

- In frequency modulation method the dot size remains the same
- The number of dots vary to simulate highlight or shadow area

AM Screening



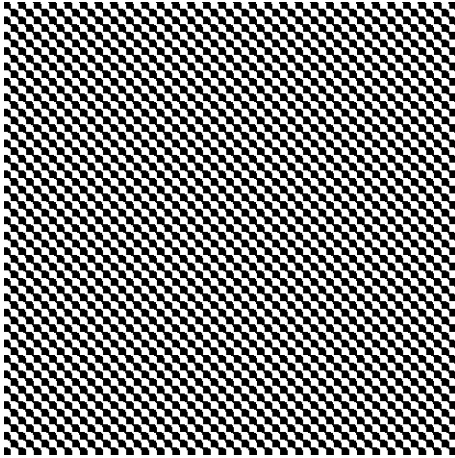
FM Screening



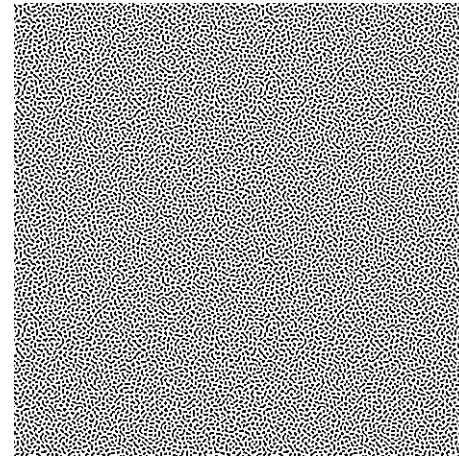


Advantages of FM screening

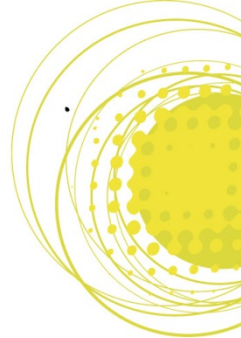
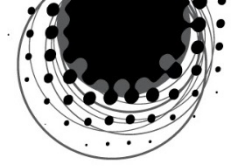
50% AM Dot



50% FM Dot



- In AM screening 50% dots show more amount of white space than FM screening
- FM dots produce bigger color gamut & details Because of tiny dots scattered randomly



Soft Proofing



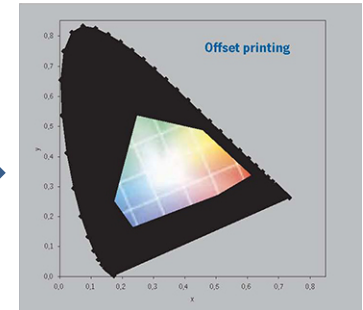
Test Form



Test Form Printing



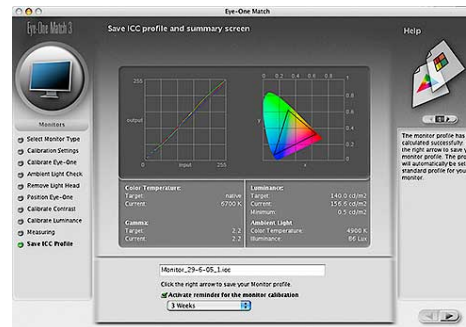
Test Form Measurement



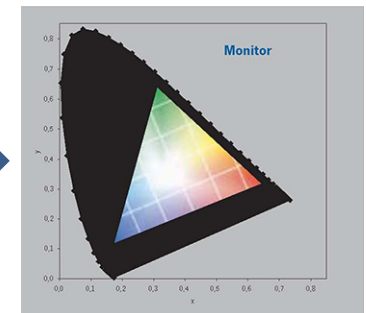
Press Profile



Monitor Measurement

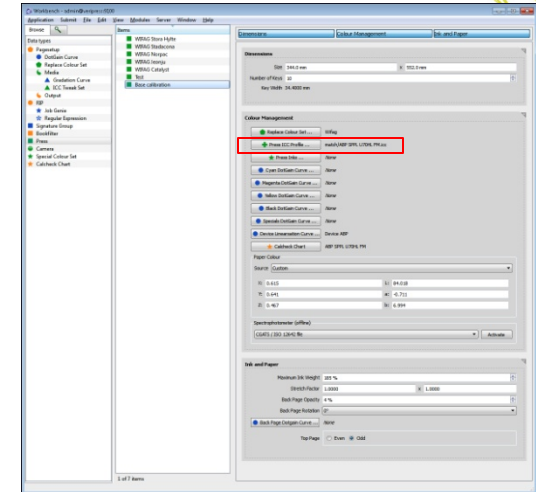
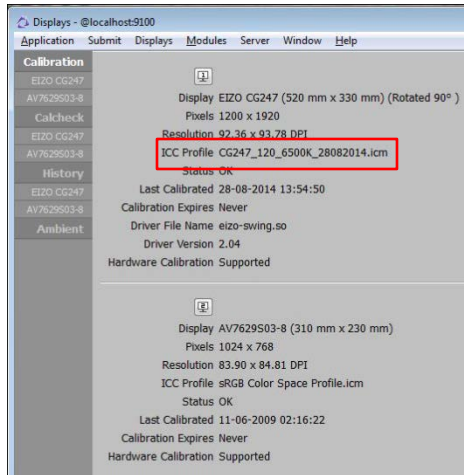


Monitor profiling

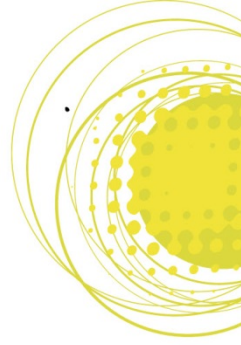
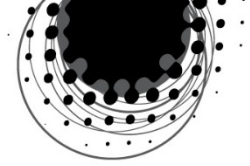


Display Profile

Soft Proofing



Soft Proof stimulating Display and Press Profile with applied Newsprint Shade helps a lot



Thank You

