DoNet

KOMORI
CMS Solutions

Komori's Idea for Generating Profit with 'Color'

CMS : Color Management System

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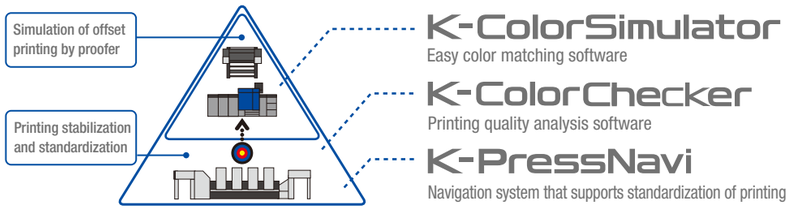
Kando : Beyond Expectations

KOMORI CMS Solutions

Komori's Idea for Generating Profit with 'Color'
True Total Color Management for Printing Standardization

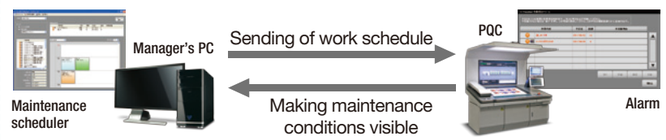


K-PressNavi
Navigation system that supports standardization of printing

K-PressNavi displays operating navigation to the press operator on the screen of the PQC (press operation stand). The system is a completely new printing information tool that supports standard printing operation in the printing workplace.

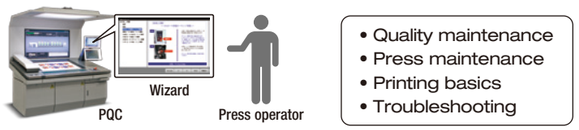
Problem1 ***Printing is not stable because press maintenance is deficient.***

Solution 1 **Enables the certain implementation and management of press maintenance by press maintenance scheduling and alarm functions.**



Problem2 ***Press operator cannot use the press proficiently.***

Solution 2 **Navigation gives the press operator necessary information with a video-equipped electronic manual from the PQC monitor.**



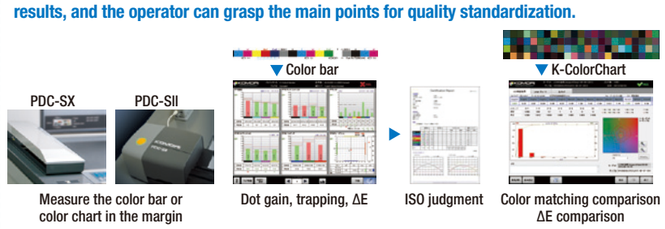
- Quality maintenance
- Press maintenance
- Printing basics
- Troubleshooting

K-ColorChecker
Printing quality analysis software

K-ColorChecker is a color management tool that automatically creates an analytical report on print quality and color matching from the PDC color measurement results.

Problem3 ***The print quality problem points cannot be found.***

Solution 3 **A print quality assessment report is created from the PDC-SX/PDC-SII color measurement results, and the operator can grasp the main points for quality standardization.**



K-ColorSimulator
Easy color matching software

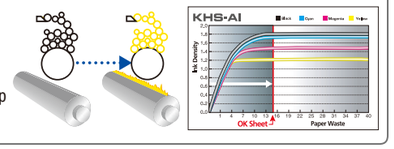
K-ColorSimulator is a core system in the Komori CMS that facilitates easy high-level color matching between offset presses and various printers.

Problem4 ***The colors of the proof and offset printing do not match.***

Solution 4 **Thanks to a proof that is output with advance simulation of the offset printing colors by the printer, frustration with color matching work at printing time is drastically reduced.**

20Matching

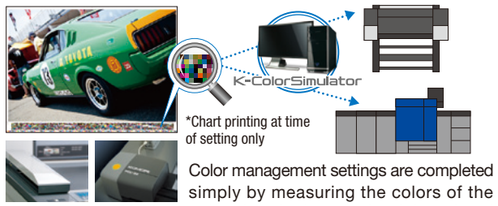
Thanks to KHS-AI pre-inking and K-ColorSimulator, it is possible to get an OK sheet within 20 sheets of offset print start-up that approximates the colors of the proof.



Problem5 ***The hurdles to color management are too high for our company.***

Solution 5 **Color management expertise not necessary. CMS can be implemented in-house. The offset printing colors at the moment can be reflected immediately in the proof.**

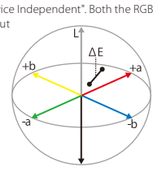
When the colors of the proof and offset printing no longer match…
Update CMS!



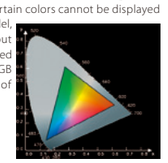
Color management settings are completed simply by measuring the colors of the color chart in the margin of the printed sheet with the PDC.

Color Management Terms

L*a*b* Color Space Model
It was one of the first color models derived from the original CIE model, and is therefore sometimes called "CIELAB".
L * (Luminance), is represented by the Z axis and goes from 0 (black) to 100 (white).
a* doesn't represent an X or Y axis, but co-ordinates from Red to Green (-127 to+ 127).
b* represents co-cordinates from Blue to Yellow (-127 to+ 127).
Both of these sets of co-ordinates contain color information from low to high brightness values. Since this model allows representation in 3d space, and doesn't depend on any 3 primary colors, it is also "Device Independent". Both the RGB Gamut and the CMYK Gamut are contained within it.



Gamut
The gamut, or color gamut, is a certain complete subset of colors. The most common usage refers to the subset of colors which can be accurately represented in a given circumstance, such as within a given color space or by a certain output device. Another sense, less frequently used but not less correct, refers to the complete set of colors found within an image at a given time. In this context, digitizing a photograph, converting a digitized image to a different color space, or outputting it to a given medium using a certain output device generally alters its gamut, in the sense that some of the colors in the original are lost in the process. When certain colors cannot be displayed within a particular color model, those colors are said to be out of gamut. For example, pure red which is contained in the RGB color model gamut is out of gamut in the CMYK model.



Delta E
Delta E is the result of a calculation of the different color coordinates LAB -where L is lightness, A is the green to red indicator and B the blue to yellow indicator. Brightness and hue can also be taken into account. Each shade can be measured and plotted within the color space by using spectrophotometers. This objective data helps support an otherwise subjective decision that will vary from person to person.

ICC Profile
The main emphasis of the ICC is to define a format for ICC Profiles, which describe the color attributes of a particular device or viewing requirement by defining a mapping between the source or target color space and a profile connection space (PCS). This PCS is either L *a*b* or CIE XYZ color space. Mappings may be done using tables, to which interpolation is applied, or through a series of parameters for transformations. To see how this works in practice, suppose we have a particular RGB and CMYK color space, and want to convert from this RGB to that CMYK. The first step is to obtain the two ICC profiles concerned. To perform the conversion, each RGB triplet R,G,B is first converted to the PCS using the RGB profile. If necessary the PCS is converted between L*a*b* and CIE XYZ, a well defined transformation. Then the PCS is converted to the four values of C,M,Y,K required.

Appendix