1. ColorMaster Concept

1.1 System Components

Software:

- GMG ColorServer 4.7 as central module for color conversions
- GMG ColorProof 5.4.2 for proof output on proof systems from Epson, HP and Canon
- GMG ProofControl 2.0 for proof verification according to print standards

Application data:

- Color profiles
- Predefined GMG hotfolders and workflows (RGB hotfolders for normalizing, image hotfolders, PDF hotfolders, PDF hotfolders for web applications in sRGB, proofing workflows)
- Color Settings for Adobe Creative Suite
- PDF/X-3 export settings for Adobe InDesign
- GMG SwatchBook
- GMG ProofControl standards

Note GMG ColorMaster is subject to a fee and requires a specific GMG ColorMaster license.

1.2 Concept Description

What is GMG ColorMaster?

GMG ColorMaster is an automated RGB workflow which allows to create print data on a high quality level. The workflow concept is based on the optimum interlinking of the software components GMG ColorServer, GMG ColorProof and GMG ProofControl. The central module for separation and color conversion is GMG ColorServer. With GMG ColorProof, the print data can be visually checked by proofing the data. GMG ProofControl finally provides information whether the proofs are within the tolerances defined by the print standards.

GMG ColorMaster is the optimized and extended version of **GMG ColorMaster in a Box** and is based on the latest versions of the above software components. All profiles of the workflow have been created with the latest GMG gamut mapping and ensure optimal and reproducible color results.

About the GMG ColorMaster color space

The GMG ColorMaster color space is a virtual CMYK color space that covers all common printing processes. This way, print results can be simulated, even before the finally applied printing process is decided. The following illustrations show color spaces of common print standards in the two color spaces AdobeRGB and GMG ColorMaster.

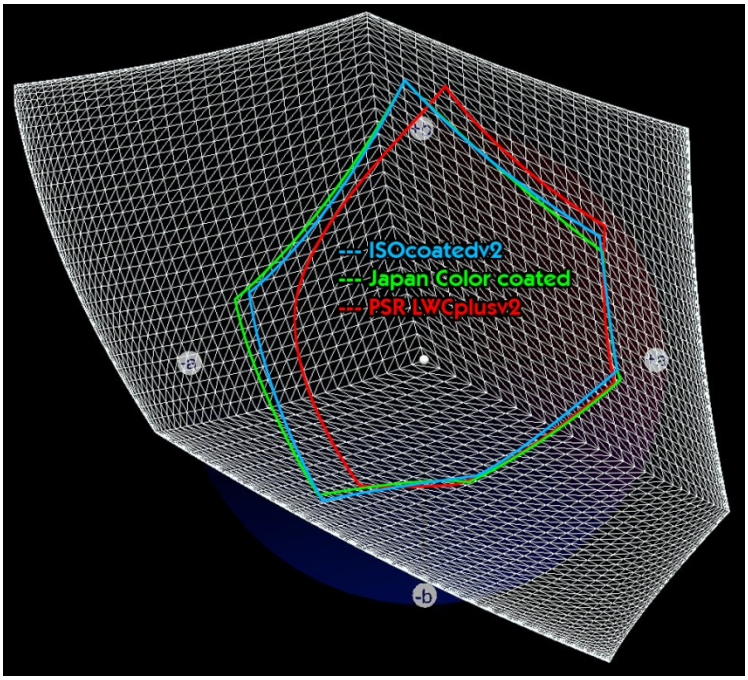

Fig. 1 Three print standard color spaces in AdobeRGB.

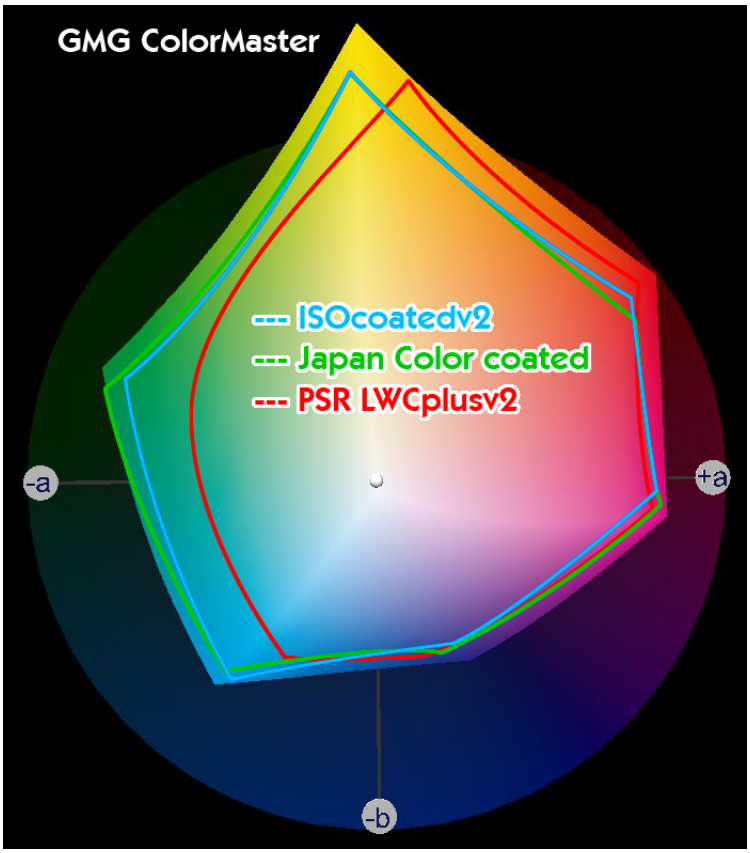

Fig. 2 Virtual CMYK ColorMaster color space comprising the same print standards as above.

Target Application

With GMG ColorMaster, you can easily process image or printing data for production in an RGB workflow according to international print standards, proof the data and finally verify the proofs. In addition to that, your data can also be converted to sRGB for web applications. For agencies, repro shops and print buyers,

the primary advantage is a reduction of time and money spent on prepress work, especially if final printing process is decided at short notice and different print standards have to considered.

Separate Editing of Image and Vector Data

All image editing steps take place in the AdobeRGB color space and are also evaluated in this color space. Text and vector graphics are defined in the GMG ColorMaster CMYK color space. All data is kept in RGB as long as possible and is only finally converted to a CMYK output color space by means of GMG DeviceLink profiles. GMG ColorServer converts all CMYK and RGB elements into a CMYK separation, perfectly optimized for the defined printing process.

ROOM Principle: Retouch Once – Output Many

Apart from technical advantages, such as process-neutral retouching and optimum separations by way of GMG gamut mapping, the RGB workflow concept also renders economic benefits due to the high degree of automation and standardization.

Retouching the image data is a one-time step, after which the retouched material is stored as AdobeRGB data again. The data can thus be used for any printing process, due to the possibility to convert the data into all required print standards. This completely eliminates individual retouching work for each printing process and subsequent modifications, simplifying the data handling in a most convenient way. The complexity of retouching image data is furthermore reduced by tools optimally adapted for editing image data in RGB.

GMG DeviceLink Profiles

All DeviceLink profiles used in GMG ColorMaster have been created with the unique GMG gamut mapping algorithms, allowing optimal color transformations while at the same time preserving the modulation. This ensures predictable and consistent color results.

With the integrated GMG DeviceLink profiles, you do not need to decide whether to use a relative or perceptive rendering intent (as is the case with ICC profiles), since the color is converted in a relative way while preserving the visual impression of the color. This results in harmonic color transformations and predictable print results.

All elements of a page are based on a consistent, process-specific CMYK separation, which takes account of the black composition or the total area coverage. This concept enables you to achieve optimal print results.

1.3 Overview on the Single Workflow Steps

The following list is provided to give you an overview on the single GMG ColorMaster-workflow steps.

Step	*Short description*
Normalizing RGB Data in GMG ColorServer	In GMG ColorServer, all data is converted from different RGB color spaces to the AdobeRGB color space, **normalizing** all elements to one color space.
Image retouche in Adobe Photoshop	The AdobeRGB image data is **retouched** for the GMG ColorMaster color space. In this process, the data is not converted to a process-dependent CMYK, but remains in AdobeRGB. All color corrections are performed on AdobeRGB data and **evaluated** via soft proofing in the GMG ColorMaster color space. In size and form, the GMG ColorMaster color space comprises all widely used color spaces for offset and gravure printing. Viewing the retouched image data in the GMG ColorMaster color space gives you a good impression of the target print standards.
Color-OK proof in GMG ColorProof	The retouched AdobeRGB image or print data is prepared for printing in the ColorMaster color space via a hotfolder in GMG ColorServer, and subsequently proofed in GMG ColorProof, using a control strip. All provided GMG ColorMaster proof profiles are optimized for AdobeRGB image or print data with simulation of the GMG ColorMaster color space printed on GMG ProofPaper semimatte 250 with an Epson, HP or Canon printer. The GMG ColorMaster proofs can then be sent to the customer for the final color OK.
Defining CMYK values with the GMG SwatchBook	In InDesign, text and vector graphics are created as CMYK objects in the GMG ColorMaster color space.The GMG SwatchBook is a valuable means to easily **define** the desired color values. Basically, the GMG SwatchBook is a color guide consisting of a selection of CMYK color combinations and is printed as a GMG ColorMaster proof via predefined ColorProof jobs.
Color conversion into different print standards	In Adobe Indesign, the print data is exported as PDF/X-3. The PDF export settings required for the ColorMaster workflow are included in the import archive and only need to be loaded. The resulting PDF/X-3 contains image elements in AdobeRGB and vector/text elements in ColorMaster CMYK. The PDF is **converted** in GMG ColorServer using preconfigured hotfolders for each required print standard. The **final** PDF comes out in the CMYK color space of the print standard, containing a PDF/X-1a output intent, and can be applied on the press. With preconfigured image hotfolders, single AdobeRGB images can be converted to every required print standard in GMG ColorServer. The final image is in the CMYK color space of the print standard.
Proofing the final print data	The final print data is **proofed**, using preconfigured workflows in GMG ColorProof. Printing starts automatically as soon as the data has been converted to the printing process in GMG ColorServer. The proof is printed with a control strip for a subsequent verification in GMG ProofControl.
Proof verification	The control strip that has been printed with the proof is measured and **validated** in GMG ProofControl, using an i1 measuring device. With a label printer, the proof label can be printed and then stuck on the back side of the proof. This way, the proof is legally binding and can be sent to the press room.